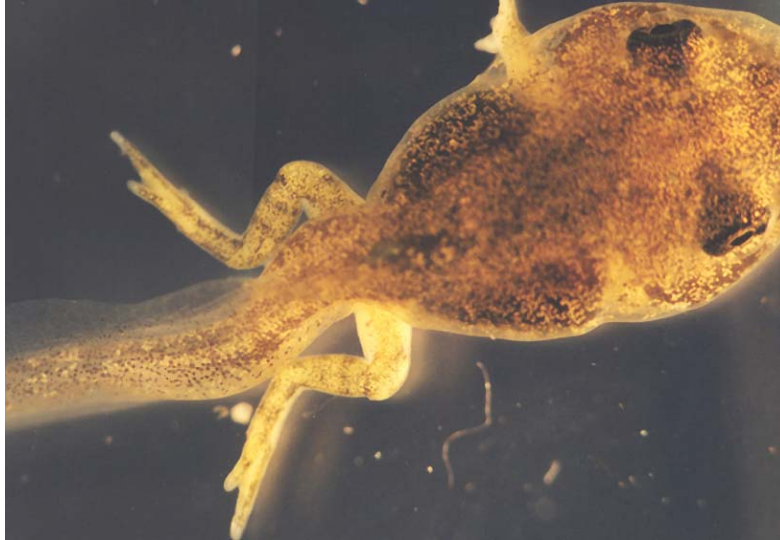


Final Report- Frog Reproduction and Development Study

2000 *RANA SYLVATICA* VERNAL POOL STUDY



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PREFACE

The following report has been prepared in support of the “Supplemental Investigation Work Plan for the Lower Housatonic River” under the Technical Support Services, General Electric (GE) Housatonic Project, Pittsfield, Massachusetts. The methods used are available in public scientific literature and are thus non-proprietary. Potential risk associated with the use or misuse of the methods or results from this study, outside the scope of this project, will be assumed by future investigators. The author would like to acknowledge Mr. Robert Rogers for his assistance in preparing this report.

INTRODUCTION

The United States Environmental Protection Agency (USEPA) is currently characterizing the natural resources of the Housatonic River in portions of Pittsfield, Lenox, and Lee, Massachusetts. The study area is approximately 19 K long and extends from Newell Street in Pittsfield to Woods Pond Dam in Lee. It includes riverine habitats, floodplain wetlands, and uplands associated with the main-stem of the river. Polychlorinated biphenyls (PCBs) that originated from the General Electric (GE) facility in Pittsfield have been found within the river and its adjacent floodplains (Woodlot Alternatives, 2001).

The Housatonic River and its floodplains provide habitat for a wide variety of reptiles and amphibians, collectively referred to as herpetiles. As many as 40 species of snakes, turtles, frogs, toads, and salamanders (Brandon, 1964) potentially occur in the study area (TechLaw, 1998). Breeding amphibians, including frogs, toads, and salamanders, use portions of the river and temporary and permanent pools, known as vernal pools, for courtship and egg laying. These areas then support larval-age amphibians for periods ranging from several months to more than a year, depending on the species. Wood frogs (*Rana sylvatica*), for example, metamorphose into the adult form in 2 to 3 months, while green frogs (*Rana clamitans*) can take over a year to complete metamorphosis (Duellman and Trueb, 1986; Hunter et al., 1992).

Overall, the objective of this study was to determine if PCB or other contaminants of potential concern (COPC) adversely affected wood frog development, growth, and maturation in vernal pools located in the lower Housatonic River study area. Wood frog egg masses, larvae, and metamorphs were collected from selected vernal pools varying in sediment PCB contamination. Egg masses were cultured in the laboratory using representative site water and sediment, and evaluated for development, growth and maturation. Additional sets of larvae and metamorphs were collected from the respective vernal pools for examination. Toxicological effects noted were then compared directly to sediment and tissue PCB levels, and in some cases other COPC tissue concentrations, in an effort to further determine the capacity of PCBs and other COPCs to disrupt various developmental processes in wood frogs. Reproductive performance and developmental fecundity were measured by comparing egg mass size (weight and number of

eggs), viability/necrosis, fertilization, early embryogenesis, hatching success, mortality, morphological development (teratogenesis), and growth (linear length in larvae and weight in metamorphs).

To document potential impact on longer-term developmental processes, exposure studies were conducted in the laboratory throughout metamorphosis. Metamorphosis, because of the array of biochemical processes occurring simultaneously, is a sensitive stage in the life cycle of amphibians and a stage that is sensitive to endocrine disruption. Since several classes of xenobiotics have been shown to alter thyroid function in metamorphosing frogs (Fort and Stover, 1997a, Fort et al., 1999a and 1999b), this phase of the study was of great importance. Inclusion of each endpoint in the present study generally covers the gamut of development from early embryo through metamorphosis.

In this report, we present the results from a study designed to evaluate development, growth, and maturation of wood frogs collected from vernal pools in the Housatonic River study area potentially exposed to PCBs and other COPCs, including, dioxins/furans, polynuclear aromatic hydrocarbons (PAHs), and Appendix IX pesticides and heavy metals. This “2000 *Rana sylvatica* Vernal Pool Study” was conducted in conjunction with the “2000 *Rana pipiens* Reproduction and Development Study” (Fort Environmental Laboratories, 2003) that was originally proposed as a component of the “Supplemental Investigation Work Plan for the Lower Housatonic River”. Further, the present study provided assurance that adequate data on amphibian development was collected in the event that insufficient developmental data from the “2000 *Rana pipiens* Reproduction and Development Study” were collected. Overall, frogs were chosen as the representative amphibian species due to their presence in the Housatonic River study area, reported sensitivity to PCBs, high potential for exposure due to both aquatic and terrestrial life stages, and capacity to be evaluated for reproductive and developmental metrics in the field and laboratory (Bonin et al., 1995; Huang, et al., 1998; Huang et al., 1999; Johnson et al., 1999; Jung and Walker, 1997; Pollard and Adams, 1988; Rosenshield et al., 1999; Russell et al., 1995). Because frogs are considered sentinels in the environment, selection of frogs for this study was further warranted.

APPROACH

Study Overview

An overview of the present study is provided in Figure 1. In summary, this study was divided into three distinct, but complementary phases. Phase I involved laboratory culture of field-collected egg masses. In the main study, egg masses collected from selected target site and reference site vernal pools were cultured in natal pool sediment/water in the laboratory. Endpoints selected to evaluate the fecundity of the test specimens were based on three broad developmental periods; egg mass, larval, and metamorph stages (see Figure 1). In addition, supplemental investigations including a crossover exposure study and Aroclor 1260 spiking study were performed. In the crossover exposure study, reference site larvae were exposed to target site vernal pool media and conversely, target site vernal pool larvae were exposed to reference site media. The objective of this supplemental investigation was to evaluate the importance of maternal PCB transfer and environmental accumulation of PCBs and other COPCs as exposure pathways, based on accumulation and the biological responses observed. The primary objective of the Aroclor 1260 sediment spiking study was to determine the potential of this commercial PCB mixture to affect developmental fecundity in a controlled laboratory setting. Phase II involved field collection of larvae during four events, each separated by several weeks. Larvae were examined for malformations and growth. Phase III involved field collection of metamorphs during one discrete event. Specimens were examined for external malformations, internal abnormalities, gender (sex ratio), and weight. Tissue samples of individual egg masses, larvae, and metamorphs from Phase I, individual larvae from Phase II, and a composite of metamorphs from Phase III were analyzed for total PCBs. Phase III metamorph composite samples were also analyzed for PCB congeners, PAHs, dioxins and furans, and Appendix IX pesticides and metals.

Selection of Test Species

The species selected for this study was the wood frog (*R. sylvatica*). Wood frogs are abundant in the Housatonic River study area (Techlaw, 1998) and constitute an important component of the

Housatonic River ecosystem. Wood frogs have a limited home range, spending a significant proportion of their early life stages in aquatic environments, particularly vernal pools (Hunter et al., 1999). Thus, PCB and other COPC body burdens in these animals reflect the diet, sediment, and water column concentration in the areas from which they were collected (Stebbins and Cohen, 1995). Also, because wood frogs lay thousands of eggs, it was possible to collect a sufficient number of eggs to ensure confidence in study results. Finally, an established peer-reviewed methodology for ranid embryo culture in the laboratory was available (Dickerson, 1969; Nussbaum et al., 1983; Carolina Biological Supply Company, 1993; Nieuwkoop and Faber, 1994; Fort and Stover, 1996a; Fort and Stover, 1996b; ASTM, 1998; Bantle et al., 1998; Ankley et al., 1998).

Wood frogs typically emerge from hibernation near the end of March and begin breeding soon thereafter. Unseasonably warm weather may accelerate this process such that migration of gravid females could occur prior to the planned field collection period. However, unseasonably cold weather or dry conditions may postpone breeding for several weeks. Adult wood frogs typically amplex near the edges of vernal pools and release egg masses within the pools. The bulk of the adult female wood frog diet prior to breeding consists primarily of insects. Weather conditions prior to field collection were closely monitored to determine when to initiate collection efforts. Prior to conducting fieldwork, appropriate scientific collecting permits for the study described in this work plan were obtained from the Commonwealth of Massachusetts, Division of Fisheries & Wildlife (MNHESP, 1997).

Sampling Strategy

Nine vernal pools containing varying levels of PCB contamination and three vernal pools locations within designated reference areas were originally selected for sampling to ensure a broad distribution of PCB concentrations. The locations were not intended to be completely representative of the entire river, but rather were intended to encompass the range of sediment PCB levels in the Lower River. The reference and target site sampling locations selected are illustrated in Figures 2 and 3, respectively.

The vernal pools selected for use in this study were verified to represent wood frog habitat. Selection of pools for this study was based on existing ecology (Techlaw, 1998; Woodlot Alternatives, 2001) and PCB contamination data. Further, the vernal pools in the study area were mapped and characterized prior to sampling using methods developed by Kenney (1995) for Massachusetts. This information included size and depth of pools, and species utilizing the pools for breeding (Woodlot Alternatives, 2001). Additionally, pool permanence (*i.e.*, water available in pool long enough for wood frogs to complete reproductive cycle), location, and PCB concentration were used as selection criteria.

Each pool was surveyed to locate wood frog egg masses. Larval wood frog collection began *circa* early April 2000 and end with metamorph collection in late August 2000. Care was taken to ensure that only the amounts of specimens necessary to complete the study were captured. Project scientists minimized pool disturbance regardless of the method employed.

MATERIALS AND METHODS

Project Participants

The laboratories and consulting groups that participated in this study were Woodlot Alternatives (Topsham, ME), Weston Solutions (Pittsfield, MA), The Stover Group (Stillwater, OK), the Texas A&M University Geotechnical and Environmental Research Group (GERG) (College Station, TX), EVS Environment Consultants (North Vancouver, BC, Canada), and Fort Environmental Laboratories (Stillwater, OK).

Woodlot Alternatives was responsible for the initial ecological characterization (Woodlot Alternatives, 2001), designation of sampling sites, and collection of biological specimens from the field. Weston Solutions collected water and sediment samples, provided a clearinghouse for submission of samples for analytical chemistry analysis to the contract laboratories, and maintained analytical and biological databases. GERG was responsible for conducting COPC analyses with water, sediment, and tissue samples. Culturing and monitoring of developing embryos, larvae, and metamorphs were performed by The Stover Group. Fort Environmental Laboratories completed data collection and review, including an external assessment of malformation and necropsy, data processing, data analysis, and reporting. EVS Environment Consultants assisted with statistical analysis and review of the draft reports.

Materials

The following equipment was used to collect specimens and water and sediment samples from the field: camera, binoculars, field notebooks, rubber knee- and hip-boots and chest waders, heavy-duty rain gear, eye protection, rubber gloves, GPS receiver, aquatic funnel traps, 2 D-ring dip net, dissecting tray, chemically clean sample jars (two-liter and four-liter size), survey flagging, Ziploc-type bags, wet and dry ice, aluminum foil, hardware cloth (for drift fences), shovels, post-hole digger, brush cutters, pitfall traps (each composed of two #10 metal cans),

heavy-duty stapler and staples, coolers for shipping samples, vermiculite, HOB0 data loggers, and conductivity, DO, and pH meters.

Methods

Field Procedures

The estimated area, mean depth, and PCB concentration for the nine study area vernal pools and three reference pool originally considered for the study are presented in Table 1. Sediment samples (0 to 5 cm from ground surface) were collected from vernal pools in the study area and analyzed for total PCB concentration. Zero to 5 cm represented a reasonable sampling depth based on the interaction of the test specimens with the sediment. Larval hatching, development, growth, and metamorphosis of wood frogs within the vernal pools exhibiting a range of sediment PCB concentrations, from no measurable sediment PCB contamination to relatively high PCB concentrations within the study area, were then studied.

A summary of the samples collected and sample sizes is provided in Table 2. In this design, wood frog egg masses, larvae, and metamorphs were collected. In Phase I, six separate egg masses were collected from each pool during one sampling event. In Phase II, larvae were collected in each of four sampling events from each vernal pool. Likewise, in Phase III, metamorphs were collected from each vernal pool. In addition, composite water samples and composite sediment samples were collected (see Collection of Sediment and Water Samples, page 9) from each site during the egg mass collection event (Phase I) for organism culture (renewal) and chemistry.

Methods of Specimens Collection

Egg masses were carefully scooped into specimen jars such that the integrity of the mass was not altered. The sampling team captured larvae using several techniques, including dip nets and aquatic funnel traps, and pitfall traps for metamorphs. The specimens were delivered to the

processing area (Weston Solutions Laboratory, Pittsfield, MA) in separate containers labeled with location and date of collection. Larvae were carefully placed in specimen jars and completely filled with the appropriate site water to ensure desiccation did not occur.

Metamorphs were placed into 24-L Styrofoam coolers lined with moist Sphagnum moss for shipping to the laboratory. Perforated lids were securely affixed to the coolers with duct tape to prevent escape and the coolers were labeled. The amount of time lapse between specimen collection, processing, and receipt of the specimens by The Stover Group was within 48-h.

Prior to delivery to The Stover Group, the coolers containing the specimens were kept in air-conditioned rooms with temperatures ranging from 10 to 15° C (Weston Solutions Laboratory, Pittsfield, MA). The water used for maintaining the specimens during transportation was collected from the pools where they were collected. For the metamorphs, sphagnum moss was changed as needed and kept moist. Representatives of the laboratory were available during the collection to assist in making decisions on sampling if additional sampling locations are needed or the number of specimens requested cannot be achieved for any reason. Specimens were shipped to the lab the same day collected. The specimens were shipped by a priority overnight (24-h) service that offers a ground service, or by a commercial carrier offering air transit of live specimens. Packaging of the specimens (metamorphs) with moss and water was adequate to ensure successful arrival.

Collection of Sediment and Water Samples

Sediment and water column samples were collected at each vernal pool. Initially, six 4-L grab samples of water and four 2.5-Kg (ca. 1-L) grab samples of sediment were collected at each location (8-VP-1, 18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-1, 38-VP-2, 46-VP-1, 46-VP-5, WML-1, WML-2, and WML-3) by Weston Solutions and composited by vernal pool in accordance with the methods specified in the Field Sampling Plan (Weston, 1998). A second set and third set of water samples were later collected from the vernal pool sites, with the exception of the three reference pools (WML-1, -2, and -3), following the aforementioned sampling methods. The second sampling event was identical to the initial event. Because of concerns of depleting water levels at some of the vernal pool locations, the third and final water collection event

consisted of four 200-250 gal. carboy containers. Two of the carboys, designated as Hubbard and Pomeroy, contained water from vernal pool locations other than the vernal pools targeted for study. Hubbard represented water from sites with sediment total PCB concentrations of less than 1.0 mg/Kg (23b-VP-1 and 23b-VP-2). Pomeroy represented water from sites with sediment total PCB amounts greater than 1.0 mg/Kg (8-VP-1, 18-VP-2, 38-VP-1, 38-VP-2, and 46-VP-5). The third carboy contained water from site 46-VP-1. The fourth carboy contained water from reference site WML-1 and represented all three reference sites. The water and sediment samples were used to culture the specimens collected and conduct general water physicochemical analyses. One-L of the composited water sample from each pool from each sampling event was used for physicochemical analysis. Duplicate samples were collected for analytical analysis and QA as necessary.

Sample Documentation and Labeling

Field notes were recorded in a logbook in accordance with the field sampling plan (Weston, 1998). Each specimen was identified in the logbook using a unique 16-digit sample identification number. Sample nomenclature methodology was specifically described in the QAPP (Weston, 1999). The label coding system was not explained to biological laboratory personnel (The Stover Group) to ensure that they remain blind as to the origin of a given animal. Global positioning system (GPS) data were collected so that the geographical coordinates of the collection locations were identified. Specific documentation of habitat within each location was provided using digitally collected images and written field observations. In addition, analytical samples were recorded in a logbook using labeling consistent with that specified in the QAPP (Weston, 1999).

Sample Preservation and Shipping of Tissue Samples

Following examination and/or culture of the specimens, samples were euthanized, frozen, and packaged for shipment to Weston for tissue analysis. Specimens to be analyzed for analytical parameters, including PCBs and other COPCs, were packaged as described below following snap freezing in liquid nitrogen at The Stover Group. The frozen egg samples were returned to

Weston Solutions (Pittsfield, MA Laboratory) for submission to the contract analytical chemistry laboratory. The frozen masses, larvae, and metamorphs were shipped on dry ice to the analytical laboratory in ice chests that were labeled in accordance with ERT/REAC SOP #2002 (EPA, 1994). The ice chests were placed into polyethylene bags (one sample per bag), which were then sealed and placed into U.S. Department of Transportation (DOT) approved fiberboard boxes lined with plastic sheeting, bubble wrap, and sufficient vermiculite to absorb any potentially leaking material. All outer packing materials were also perforated to allow gas exchange. One chain-of-custody form (in triplicate) was placed into a watertight bag and taped to the inside of the lid of each cooler. In accordance with DOT regulations, the lids were slightly perforated to allow for release of carbon dioxide gas as the dry ice melts. In this case, the ice chests were then placed into cardboard boxes that have also been perforated to allow gas release. The boxes were securely taped and appropriately labeled according to the courier's protocols. International Civil Aviation Organization regulations stipulated that any volume of dry ice is a Class 9 Miscellaneous Hazardous Good (IATA, 1993). In order to provide a means by which the entire path of a sample can be traced, a chain-of-custody record was maintained from the time a sample was collected through analysis or hatching, as specified in the QAPP (Weston, 1999).

Laboratory Procedures

Approach

The laboratory procedures used in the present study are described in the following sections. Because the primary objective of this study was to collect additional developmental effects data, each of the three primary developmental life stages; fertilized egg or egg mass, larval development, and metamorphosis were considered. Each of these three primary life phase was assigned a phase to the project, such that Phase I evaluated eggs masses, Phase II evaluated larval development, and Phase III evaluated metamorphosis. In order to more fully evaluate wood frog development, representative samples of eggs masses collected during Phase I were also cultured in the laboratory thorough metamorphosis in water and sediment from the vernal pool from which they were collected. Laboratory culture of the collected egg masses also allowed crossover exposure and sediment spiking studies to be performed. In the crossover

studies, egg masses collected from contaminated sites were cultured in reference site water and sediment media, and egg masses collected from reference sites were cultured in contaminated site media. These crossover studies sought to determine the significance of transgenerational toxicant transfer (maternal transfer) to the developing progeny relative to environmental exposure in terms of toxicological effects and toxicant accumulation. PCB spiking studies in which reference site sediment was spiked with 30 mg/Kg of Aroclor 1260 and exposed to a subset of developing wood frog hatchlings from the reference site was also conducted to help more specifically determine the effects of PCB exposure on wood frog development and establish the potential for bioaccumulation. In contrast to Phase I, which involved culture of field collected egg masses in the laboratory, Phases II and III only evaluated specimens collected from the field at each respective life stage and did not involve laboratory culturing.

Phase I – Egg Mass Viability, Larval Development and Maturation in Culture

Egg Mass Viability

Six egg masses were collected for study from each of the vernal pools with the exception of site 39-VP-1 as identified in Table 1. No wood frog egg masses were found throughout the study in vernal pool 39-VP-1 (52.0 mg/Kg sediment total PCBs). Upon arrival at the laboratory, all samples were logged into the Laboratory Information Management System (LIMS). Egg masses were immediately transferred to individual 4-L containers (one egg mass per test vessel) with the appropriate vernal pool water. In order to maintain adequate dissolved oxygen (DO) levels, each sample chamber was aerated. Preliminary data were then collected and recorded in the Phase I notebook. This data consisted of an evaluation of, egg mass weight, approximate egg count, fertilization, and necrosis. Approximately 25% of each egg mass was sectioned, weighed, snap frozen, and stored for PCB analysis.

Each individual egg mass was cultured in the 4-L containers at $23 \pm 1^\circ \text{C}$ and $\text{DO} > 6.0 \text{ mg/L}$. Test vessels were placed randomly on test racks in accordance with the randomization chart provided in Appendix E. Randomization charts represented a completely redomized design. Cultures were monitored daily. During this evaluation of early development, egg masses were cultured and observed until hatching was complete. This evaluation included determination of

the number hatched, the number of unhatched/necrotic eggs, and other abnormalities during early embryogenesis.

The embryos were expected to hatch within 7-10 days (Gosner, 1960). Embryos were not fed during the 7-d pre-hatch observation period, since the yolk sac that remains prior to hatching provided sufficient nourishment for the first 7-10 days following fertilization. After hatching was completed, the spent egg mass gelatin was snap frozen in liquid nitrogen and stored frozen for possible tissue analysis. Once hatched, larvae from each egg mass were photographed and digitized prior to being reared in 4-L containers with the appropriate site water and sediment. The remaining larvae not used in the larval development and maturation study were snap frozen in liquid nitrogen and stored frozen for tissue analysis. Larvae were then monitored for developmental abnormalities. Malformed larvae were also documented photographically. Photographs were taken approximately every 7-10-d until the larvae had undergone metamorphic climax. These photos were digitized for a comparison of average growth rates.

Larval Development and Maturation

For the culturing portion of Phase I groups of approximately 100 hatchlings from each egg mass (n=6) from each pool described in the preceding section were placed in each of 4 replicate 4-L exposure chambers (25 per replicate vessel) for monitoring throughout metamorphosis. Because it could not be assumed that the primary source of PCBs to the developing embryos was via maternal transfer to the egg during oogenesis, it was necessary to add site or reference site water and sediments to the test vessels. Furthermore, based on its composition, it was likely that the jelly coat surrounding the embryo would not completely prevent passage of PCBs or other COPCs to the developing embryos. Nylon mesh inserts were inserted into the exposure vessels at the sediment/water interface prior to the addition of the hatchlings. The mesh insert allowed easy retrieval and observation of the larvae during observation periods by gently lifting the mesh insert while allowing direct contact with the sediment. Approximately 200-g of sediment (wet weight) was placed in the bottom of each 4-L container, the exposure inserts added, and the vessels filled with 3-L of the appropriate site water. This represented a 1:15 ratio of sediment to test water. Although this ratio of sediment to water was less than that typically used in similar studies (Fort and Stover, 1997b), the high amount of decaying organic material in the sediment

samples made it physically impossible to achieve a greater ratio of sediment to water. This represented a fairly realistic exposure scenario in the laboratory (Fort and Stover, 1997b). Vessels containing embryos from reference and target areas were discretely labeled and then randomly distributed within an incubator. Laboratory personnel were blind to the origin of the embryos in each test vessel. Adequate pH (ca. 7.0-7.5) in the cultures were maintained at all times, as well as a temperature of $24 \pm 1^\circ \text{C}$. Although each culture vessel was aerated, dissolved oxygen was monitored and was not allowed to drop below 6.0 mg/L. The test chambers were maintained on a 12-h day/12-h night cycle, and renewed as needed to account for evaporation and to maintain a constant water volume. Sediment was changed as needed. Dead embryos were removed, counted, and recorded daily. The water and sediment samples used, including the specific weight of sediment, are provided in Appendix A.

Morphological evaluation of the developing larvae was conducted either at the end of an observation period or upon the death of the juvenile or embryo. These observations continued until the specimens either metamorphed or died. The following specific abnormalities were recorded: hemorrhage; axial malformations; blistering and edema; and abnormal development of the gut, head, face and eye, heart, and brain. Growth (length for larvae and weight for metamorphs) was also measured.

Dead larvae were assigned numbers for tracking. They were then snap frozen in liquid nitrogen and stored frozen for further evaluation, including possible tissue residue analysis. After metamorphic climax, all larvae were photographed, reviewed for abnormalities, and snap frozen in liquid nitrogen for possible tissue analysis.

Crossover Exposure Studies

In an effort to examine the role of transgenerational transfer of PCBs from the mother to the offspring relative to the impact of environmental exposure during development, hatchlings from the reference sites were exposed to contaminated site water and sediment. Reciprocally, hatchlings from contaminated sites were exposed to reference site water and sediment. For these studies, approximately 250 hatchlings from reference site WML-2 were cultured in 10 replicate 4-L chambers containing water and sediment from test site 38-VP-2 and approximately 250

hatchlings from reference site WML-1 were cultured in 10 replicate 4-L chambers (25 organisms per replicate) containing water and sediment from test site 38-VP-1. Reciprocally, approximately 250 hatchlings from test site 38-VP-2 were exposed to reference site WML-2 water and sediment and approximately 250 hatchlings from test site 38-VP-1 were exposed to reference site WML-1 water and sediment in each of 10 separate 4-L replicate chambers (25 organisms per replicate). For each crossover treatment, organisms were randomly selected from a composite of organisms from each of 5 randomly selected egg masses from each respective site, with the exception of the reference site WML-1 organisms seeded into site 38-VP-1 media. In this case, composited organisms from 5 randomly selected egg masses were randomly placed in each of 8 replicates instead of 10, due to a shortage of specimens. A similar 1:15 ratio of the respective site sediment to site water was used in both crosses as used in the general Phase I culture study. As with the main developmental study, test vessels were placed randomly on test racks in accordance with a randomization chart (Appendix E), which represented a completely randomized design. Cultures were prepared and maintained as described in the previous exception.

Aroclor 1260 Spiking Study

As a means of evaluating the potential toxicological effects of Aroclor 1260 on larval development, reference site sediment from site WML-3 was analytically spiked with Aroclor 1260 at a concentration of 30 mg/Kg. A random selection of 100 hatchlings from a composite of 5 egg masses from reference site WML-3 were placed in each of four replicate 4-L vessels (25 hatchlings per chamber) and exposed to water and 30 mg/Kg Aroclor 1260-spiked sediment from reference site WML-3. A set of 100 randomly selected hatchlings was also exposed to unspiked WML-3 sediment in the same format described above. Aroclor 1260 spike treatment test vessels and reference site vessels were placed randomly on test racks in accordance with the randomization charts provided in Appendix E. These charts also represented a completely randomized design.

Phase II - Larval Evaluation

Four sampling events, designated Events 1-4, and spaced ca. 3 weeks apart were performed so that the majority of larval development was considered. Larval specimens were collected from each vernal pool during the four events for evaluation in the laboratory. Upon receipt by The Stover Group, all samples were logged into the LIMS. All live larvae were then photographed and digitized for length (growth). At this time, The Stover Group personnel reviewed each specimen for abnormalities and the results were recorded. The following specific abnormalities were specifically evaluated: hemorrhage; axial malformations; blistering and edema; and malformation of the gut, head, face and eye, heart, brain.

Phase III - Metamorph Evaluation

Two sets of at least 50 metamorphs were collected per vernal pool for evaluation in the laboratory with the following exceptions: 8-VP-1, with one set of 5 specimens; WML-41, with one set of 39 specimens; and 39-VP-1 and WML-2, where no metamorph specimens were found. Upon receipt by The Stover Group, all samples were logged into the LIMS. All live metamorphic wood frogs were photographed and the weight of each frog was recorded. After initial observation, photography, and weighing, a random selection of ca. 10% of the specimens collected were snap frozen and stored frozen for tissue analysis. Due to the fact that no rearing was involved, dead specimens arriving at The Stover Group were dealt with in the same manner as live metamorphs, providing sufficient integrity of the specimens had been maintained.

Because of the time required to adequately necropsy each of the individual specimens collected from each site, specimens marked for necropsy were preserved in 3% (w/v) formalin. Specimens were necropsied, with photographic documentation of any specific abnormalities. Specific attention was focused on the differentiating gonadal tissue, with an assessment of tissue type, phenotypic sex, and potential viability. Viscera, including gut, liver, and kidneys were also examined for abnormalities. The specimens were prepared for a ventral incision. A 5-10 cm incision was made through the skin, starting immediately anterior to the vent and proceeding in an anterior direction through the sternum. Care was taken to only cut the skin by lifting the skin.

Two transecting incisions were made at the ends of the primary incision and skin peeled back to expose viscera. The primary organs were examined for general health, tumors, lesions, lesions, discoloration, shape, parasites, and position. The examination was initiated with the lower GI tract, including the rectum, intestines, and stomach, and proceeded to the liver, spleen, kidneys, and the reproductive organs. The incision was continued in an anterior direction to expose the lungs, heart, and upper GI tract, as necessary. The brain and eyes were examined by making a dorsal incision through the palate. In some cases, fatty tissue and bone fragments were removed. Once the examination was completed, the specimens were frozen at -20°C . Digital pictures of the whole animal and necropsy findings were prepared and filed in the data records.

Analytical Analyses

Analysis of total PCBs was conducted on site composited sediment and water samples, and Phase I egg mass section (grab from an individual egg mass) and metamorph (composite of specimens generated from an individual egg mass) samples. Phase II larvae (composite of specimens generated from an individual egg mass) samples were also analyzed for total PCBs. COPC analysis (total PCBs, Aroclor-specific PCBs, PAHs, dioxins/furans, and Appendix IX organochlorine pesticides and metals) was performed on Phase III metamorphs, composited by individual site. Tissue samples were processed by The Stover Group, Fort Environmental Laboratories, and Weston Solutions and returned frozen to Weston Solutions for shipment to GERG for total PCBs and other COPC analysis. The Stover Group analyzed the water composite samples for general water quality parameters, including DO, pH, hardness, alkalinity, conductivity, ammonia-nitrogen, and nitrate/nitrite-nitrogen.

Data Analysis

Data Collection

For Phase I embryo-larval development and maturation, mortality, malformation, and growth were determined for the test and reference sites using a dissecting microscope (Fort et al., 1995,

1996b and 1997a; ASTM, 1998). Types of abnormalities and developmental stage relative to days in culture were also determined. For Phase II, malformation and growth endpoints were evaluated. Malformation frequencies, necropsy findings, sex ratios, and growth were measured in Phase III. The relative rate of development was captured using a Sony CCD-iris high-resolution color digital video camera. A Pentium 800 MHz computer with image processing software and a FlashPoint 128 (Integral Technologies, Inc., Indianapolis, IN) video frame grabber was used to digitize test specimens throughout the study. A ruler videotaped with the larvae was used to correct for image distortion and calibrate the length-measuring program to ensure accurate measurements of the larvae. Head-to-tail or snout-to-vent lengths were measured using Sigma Scan (SPSS, Corte Madera, CA).

As an initial step in the evaluation, a database was developed for each vernal pool for each phase of study. This database was developed in spreadsheet format and sorted by pool and by specimens groups. The database included the following information: identification number of the vernal pool, egg mass, necrosis, number of eggs, fertilization rate, mortality incidence, abnormality incidence by type of deformity and total number, abnormalities occurring during metamorphosis, sex ratio, and PCB concentrations in the associated vernal pool sediment and tissues. The Quality Assurance Unit (QAU) verified the accuracy of the data sets prior to statistical evaluation. EVS Environment Consultants and Terrastat Consulting Group (Everett, WA) provided an additional external QA review of the data sets.

Statistical Analysis

Hypothesis Testing

Statistical evaluations of differences in outcomes between respective crossover study treatments, or treatments associated within the Aroclor 1260 spiking study, were evaluated based on homoscedastic t-tests (1 tail, 0.05), providing the data sets were found to be normally distributed with homogeneous variance using ToxCalc 5.0 (Tidepool Scientific Software, 1994). Proportional data was transformed using an arcsine squareroot transformation prior to formal statistical evaluation. Normality of data set distributions was determined by the Shapiro-Wilks

test. For non-normally distributed data sets, non-parametric tests, such as the Wilcoxon Two Sample test (1 tail, 0.05) and Kruskal-Wallis one-way ANOVA ($P=0.005$), were used. To be ecologically conservative, no adjustment to the significance level was performed during this analysis. Conclusions based on the hypothesis test were further examined with respect to biological significance.

Correlation Analysis

Spearman's Rank Correlation analysis was used to establish relationships between PCB concentrations and biological effects observed, larval and metamorph tissue and egg mass PCB concentrations and sediment PCB concentrations, and the biological endpoints evaluated in this study. As with the hypothesis test, data sets were evaluated for normality prior to correlation analyses.

RESULTS

Sample Collection

Chain-of Custody documents are provided as Appendix B. Results from sample collection efforts are documented in a master specimens inventory list provided in Appendices C, D, and E. With the exception of site 39-VP-1 (52.0 mg/Kg sediment total PCBs) in which no specimens were found, the remaining 11 sites (8 target and 3 reference) produced an adequate number of specimens to fulfill the sampling requirements necessary to complete this study.

Vernal Pool Water Quality Characteristics

Results of water quality characterization of samples collected from the pools during field collection and samples collected for the culturing portion of Phase I studies are reported in Table 3. Generally, aquatic habitats suitable for amphibians are of low to moderate hardness and alkalinity, with near neutral pH to slightly alkaline pH, and adequate levels of dissolved oxygen (> 4 mg/L). Little is currently known about trace mineral requirements, although the presence of calcium, magnesium, and potassium ions appear to be important. Excessive levels of ammonia and nitrite can be deleterious. However, the general water quality characteristics of the vernal pool samples were similar and consistent with normal aquatic habitat requirements for most amphibians, including *R. sylvatica* (Rowe et al., in press; Stebbins and Cohen, 1995).

Water, Sediment, and Other COPC Analyses

Results of water, sediment, and tissue analyses are provided as Appendix F. A summary of these results is presented in Table 4. It should be noted that the sediment chemistry data presented for the present vernal pool studies represented the average of two individual samples with the exception of 38-VP-1, which were collected approximately one month apart (April and May, 2000). These data were collected in support of the present ecotoxicological studies. No sediment data collected prior to the initiation of the two amphibian studies were included in the

sediment chemistry values presented in either developmental determinations of contaminant effects on amphibian populations (i.e., spatially weighed vernal pool and backwater habitat data used in the evaluation of concentration/response relationships). Use of additional data in the interpretation of relative risk of COPCs is beyond the scope of these studies.

Analyses included PCBs (aroclor and total), dioxins and furans, and Appendix IX pesticides on all samples, with the addition of Appendix IX semi-volatiles (including PAHs) and metals on the sediment samples collected in May 2000. The sediment total PCB values used for the present study were based on an average of the two sediment samples collected for each vernal pool. All chemistry values are reported as dry weight for sediment samples and wet weight for tissue samples. The initial sediment total PCB values (for samples collected April 4-10, 2000) ranged from 0.12 mg/Kg (23b-VP-1 and 23b-VP-2) to 94.0 mg/Kg (38-VP-2). The remaining vernal pool sediment tPCB concentrations were: 0.87 mg/Kg (46-VP-1), 3.6 mg/Kg (46-VP-5), 5.2 mg/Kg (18-VP-2), 12.0 mg/Kg (8-VP-1), and 38.0 mg/Kg (38-VP-1). Total PCB at station 39-VP-1 was 52.0 mg/Kg; this station was not sampled in May 2000. Total PCB measures at the three reference stations were all rejected (as per Weston Solutions data qualifier).

The sediment total PCB values from the second sampling event (for samples collected May 2-19, 2000) ranged from 0.098 mg/Kg (23b-VP-2) to 30.0 mg/Kg (38-VP-2). The remaining vernal pool sediment tPCB concentrations were: 0.25 mg/Kg (23b-VP-1), 0.13 mg/Kg (46-VP-1), 0.75 mg/Kg (46-VP-5), 6.9 mg/Kg (18-VP-2), 17.0 mg/Kg (8-VP-1), and 18.0 mg/Kg (38-VP-1). Total PCB measures at the three reference stations were all below detection limits (DL range = 0.07 to 0.13 mg/Kg).

Average vernal pool sediment total OC-pesticides ranged from 0.02 mg/Kg (23b-VP-1) to 3.6 mg/Kg (39-VP-1). Reference site total OC-pesticide concentrations ranged from 0.02 to 0.07 mg/Kg (values are based on ½ detection limit, as all pesticide concentrations in the reference sediments were below the respective detection limits). The total OC-pesticide values included in this report are based on only three compounds: 4,4' – DDD, 4,4' – DDE, and 4,4' – DDT. All other pesticide compounds included in the sediment chemical analysis dropped out, due to an abundance of non-detect results (≥ 80%) and/or detection limits exceeding measured values.

Average total dioxins/furans sediment levels ranged from 80.8 ng/Kg to 3,715 ng/Kg in target vernal pools (based on geometric mean and $\frac{1}{2}$ the detection limit for non-detect values, for both target and reference stations). Average reference station total dioxins/furans ranged from 33.1 to 177 ng/Kg. The geometric mean was selected as the superior measure of central tendency (relative to the arithmetic mean), due to the systematic difference noted between the measured values from the first and second sampling event. The dioxin/furan values were considerably higher in the May 2000 sampling, sometimes 2-3 orders of magnitude greater than values recorded for the same station in the April 2000 samples. Total sediment PAH values ranged from 3.3 mg/Kg to 20 mg/Kg at target vernal pools, and from 18 mg/Kg to 22.4 mg/Kg in the three reference vernal pools (based on $\frac{1}{2}$ of the detection limit for individual compounds).

Of the heavy metals analyzed as a component of the Appendix IX analyses, the following metals at a target vernal pool(s) were ≥ 2 times the average reference concentration: arsenic, chromium, copper, mercury, nickel, and tin. The maximum metal concentration at any given target station was approximately 5 times the average reference concentration. The average reference total metals concentration was 337 mg/Kg. Target total metals concentrations exceeded this reference average at 5 vernal pools, but no vernal pool total was > 2 times the reference total metals value.

In the present study, the sediment total PCB values used for evaluation against biological effects data are mean values determined by EVS Environmental Consultants (Table 4 and Appendix F). Thus, the sediment total PCB concentrations used in this study were 14.5, 6.1, 0.19, 0.11, 28.0, 62.0, 52.0, 0.5, and 2.2 mg/Kg. for vernal pools 8-VP-1, 18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-1, 38-VP-2, 39-VP-1, 46-VP-1, and 46-VP-5, respectively. The sediment total PCB levels for reference areas WML-1, WML-2, and WML-3 were ND (0.007 mg/Kg), ND (0.013 mg/Kg), and ND (0.011 mg/Kg), respectively. Although water total PCB levels from each of the vernal pools were not used in the analysis of the present data, water total PCB levels measured at sites 8-VP-1, 18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-1, 38-VP-2, 39-VP-1, 46-VP-1, and 46-VP-5 were 3.25×10^{-4} , 0.18×10^{-4} , 0.13×10^{-4} , 0.14×10^{-4} , 0.55×10^{-4} , 4.65×10^{-4} , 0.96×10^{-4} , 0.18×10^{-4} , and 0.26×10^{-4} mg/L, respectively. Water total PCB concentrations were 0.2×10^{-4} , 0.13×10^{-4} , and 0.13×10^{-4} mg/L at reference sites WML-1, WML-2, and WML-3, respectively.

Phase I

Tissue Residue Analyses

Phase I Cultures

Total PCB levels were measured in specimens cultured from egg masses in Phase I studies. A comparison between Phase I total PCB concentrations in sediment samples and various tissue studied are illustrated in Figure 4. Two types of specimen were analyzed, egg mass sections and metamorph samples which were collected during the laboratory culture portion of the Phase I studies. Results from these analyses are provided in Table 4. Egg mass total PCB levels ranged from 11.1 mg/Kg in specimens collected from site 46-VP-1 (0.5 mg/Kg sediment total PCB) to 1.2 mg/Kg in specimens collected from site 23b-VP-2 (0.11 mg/Kg sediment total PCB). No relationship between the egg mass tissue total PCBs and the sediment total PCB levels at the vernal pools where the specimens were collected was detected (Correlation 1 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.42$, $p>0.05$). The Phase I metamorph samples collected from the laboratory cultures generally contained greater levels of total PCBs than the egg masses from which they developed. This trend was particularly obvious in the specimens cultured from vernal pools with high levels of sediment total PCB contamination, including site 8-VP-1 (5.8 mg/Kg whole body total PCB), site 38-VP-2 (6.6 mg/Kg whole body total PCB), and site 38-VP-1 (4.7 mg/Kg whole body total PCB). A reverse trend was noted in metamorph samples collected from laboratory cultures from target sites with little or no sediment total PCB contamination, including sites 23b-VP-1 and 23b-VP-2, such that tissue levels in the metamorph samples collected from the laboratory culture were 11.5- and 14.3-fold less than levels found in their respective egg masses. Tissue total PCB levels in metamorphs collected from laboratory cultures of egg masses collected from low-level total PCB contamination, such as sites 46-VP-1 and 46-VP-5, showed relatively modest increases in total PCB levels of 5.3- and 2.6-fold. No relationship between tissue total PCB levels in metamorphs collected from Phase I cultures and sediment total PCB levels was found (Correlation 2 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.52$, $p>0.05$).

Crossover and Aroclor 1260 Spike Studies

Results of tissue total PCB analysis of crossover culture specimens and specimens cultured in Aroclor 1260 spiked reference sediment and reference site water are provided in Table 4 and Figure 5 and 6, respectively. Metamorph specimens from reference sites WML-1 and WML-2 cultured in site 38-VP-2 (62.0 mg/Kg sediment total PCB) and site 38-VP-1 (28.0 mg/Kg sediment total PCBs) contained total PCB levels of 6.6 mg/Kg and 7.8 mg/Kg. These levels were nearly 1,001- and 2,058-fold greater than the levels detected in the egg masses prior to the crossover culture treatment, respectively. Conversely, metamorph specimens collected from sites 38-VP-2 and 38-VP-1 and cultured in reference site water and sediment from reference sites WML-1 (ND [0.007 mg/Kg] sediment total PCBs) and WML-2 (ND [0.013 mg/Kg] sediment total PCB) contained 0.05 mg/Kg and 0.10 mg/Kg total PCBs, respectively.

Metamorph samples from reference site WML-3 (ND [0.011 mg/Kg] sediment total PCBs) hatchlings cultured in reference site sediment spiked with 30 mg/Kg Aroclor 1260 contained 0.53 mg/Kg total PCB which represented approximately a 69.4-fold increase in total PCBs from the original reference site egg mass. Both of these supplemental investigations associated with Phase I indicated that vernal pool site media and exposure duration were significant factors in the uptake of PCBs by amphibian receptors.

Egg Mass Fecundity and Hatching Success

Results of egg mass fecundity assessments, including weights, egg counts, fertilization rates, necrosis rates, and hatching success, are provided in Figures 7-11. The following values presented, with the exception the of egg mass weight data, were extrapolated from 25% and 30% subsamples to represent counts from 100% of the egg masses. Prior to evaluating the general effects observed at the target sites relative to the reference sites, the three reference sites were tested for homogeneity to determine if they could be pooled to simplify statistical analysis. These tests indicated the reference sites were homogeneous. Thus, results for the reference sites were pooled and compared against the target sites. A comparison of mean egg mass weights

between each sampling location is provided in Figure 7. Mean egg mass weights collected from site 8-VP-1 (14.5 mg/Kg sediment total PCBs) and site 38-VP-1 (28.0 mg/Kg sediment total PCBs) were 335.9 g and 322.0 g, respectively. The reference site mean egg mass weight was 215.3 g. The mean egg mass weights of specimens collected from sites 18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-2, 46-VP-1, and 46-VP-5 (6.1, 0.19, 0.11, 62.0, 0.5, and 2.0 mg/Kg sediment total PCBs, respectively) of the target site sampling locations were 152.1, 190.7, 287.5, 254.7, 284.0, and 238.1 g, respectively. No relationship between egg mass weight and sediment total PCB levels was detected (Correlation 3 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.41$, $p>0.05$). In addition, no apparent relationship between egg mass weight and egg mass tissue total PCBs existed. These results that suggested that the sediment total PCB levels were not an indicator of egg mass weight, which was not necessarily surprising, considering the mobility of the females throughout the study area. Further, it is distinctly possible that the average exposure concentration for a given female prior to egg mass deposition may not approximate the natal pool sediment total PCB concentrations.

A comparison of mean egg counts between each sampling location is provided in Figure 8. Mean egg mass counts were generally less variable between sites than mean egg mass weights. The mean egg mass count determined for target site sampling location 18-VP-2 (6.1 mg/Kg sediment total PCBs) was 1857 eggs. The mean egg counts calculated for the remaining target sites ranged from 618 to 952 eggs. The reference site mean egg mass count was 740 eggs. No relationship between mean egg counts from egg masses collected at each site and sediment total PCB levels was found (Correlation 4 of Table 5 – Spearman’s Rank Correlation, $n=12$, $r=0.20$, $p>0.05$). In addition, no apparent relationship between egg mass counts and egg mass tissue total PCBs existed.

A comparison of mean egg mass fertilization between each sampling location is provided in Figure 9. The mean egg mass fertilization for samples collected at target sites 8-VP-1 (14.5 mg/Kg sediment total PCBs), 23b-VP-1 (0.19 mg/Kg sediment total PCBs) and 23b-VP-2 (0.11 mg/Kg sediment total PCBs) were 70.0%, 74.4%, 77.5%, respectively. Target sites 38-VP-2 (62.0 mg/Kg sediment total PCBs), 46-VP-5 (2.2 mg/Kg sediment total PCBs), 18-VP-2 (6.1 mg/Kg sediment total PCBs), 38-VP-1 (28.0 mg/Kg sediment total PCBs), and 46-VP-1 (0.5

mg/Kg sediment total PCBs) had mean egg mass fertilization rates of 91.5%, 99.9%, 82.4%, 97.1%, and 92.1%, respectively. The frequency of fertilization for the mean reference site egg masses was 94.1%.. No relationship between egg mass fertilization and sediment total PCB concentrations was noted (Correlation 5 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.07$, $p>0.05$). In addition, no apparent relationship between egg mass fertilization and egg mass tissue total PCBs existed.

A comparison of mean egg necrosis between each sampling location is provided in Figure 10. The mean egg mass necrosis rate for samples collected at target sites 38-VP-2 (62.0 mg/Kg sediment total PCBs), 46-VP-5 (2.2 mg/Kg sediment total PCBs), 38-VP-1 (28.0 mg/Kg sediment total PCBs), and 46-VP-1 (0.5 mg/Kg sediment total PCBs) were 8.5%, 0.5%, 4.9%, and 9.7%, respectively, while the mean of the reference site egg masses was 10.3%. The mean egg mass necrosis for sites 8-VP-1 (14.5 mg/Kg sediment total PCBs), 18-VP-2 (6.1 mg/Kg sediment total PCBs), 23b-VP-1 (0.19 mg/Kg sediment total PCBs), and 23b-VP-2 (0.11 mg/Kg sediment total PCBs) were 30.1%, 17.6%, 25.7%, and 33.3%, respectively. No relationship between egg mass necrosis and sediment total PCB concentrations was observed (Correlation 6 of Table 5 – Spearman’s Rank Correlation, $n=12$, $r=0.33$, $p>0.05$). In addition, no apparent relationship between of egg mass necrosis and egg mass tissue total PCBs existed.

The mean hatching success of egg mass specimens collected from the target site sampling locations is presented in Figure 11. Target sites 8-VP-1 (14.5 mg/Kg sediment total PCBs) and 23b-VP-2 (0.11 mg/Kg sediment total PCBs) had mean hatching success of 55.7% and 57.2%. Hatching success in the remaining target site sampling locations ranged from 75.8% to 93.6%, whereas the mean hatching success of the reference site egg masses was 77.3%. No relationship between egg mass hatching success and sediment total PCB concentrations was identified (Correlation 7 of Table 5 – Spearman’s Rank Correlation, $n=12$, $r=0.20$, $p>0.05$). In addition, no apparent relationship between rates of egg mass necrosis and egg mass tissue total PCBs existed.

Larval Development and Growth

Larval mortality for the egg masses cultured in the laboratory from each site is provided in Figure 12. The mean larval mortality for larvae cultured from sites 23b-VP-1, 23b-VP-2, 46-VP-1, and 18-VP-2 (0.19, 0.11, 0.5, and 6.1 mg/Kg sediment total PCBs, respectively) were reasonably similar to larval mortality for the reference sites WML-1, -2, -3 (ND [0.01 mg/Kg] sediment total PCBs). Mean larval mortality for specimens cultured from sites, 38-VP-2, 46-VP-5, and 38-VP-1 (62.0, 2.2, and 28.0 mg/Kg sediment total PCBs, respectively) were less than the reference sites WML-1, -2, -3 (ND [0.01 mg/Kg] sediment total PCBs) larval mortality rate. Interestingly, larvae cultured from sampling locations containing relatively low sediment PCB levels demonstrated greater rates of mortality than larvae cultured from sampling locations containing relatively greater sediment PCB concentrations.

Rates of development for egg masses cultured in the laboratory from each site are provided in Figure 13. Evaluation of developmental trajectories provides an assessment of the specific rates of development by assessing the stage of development relative to the time in culture. The rate of development of larvae cultured from sites 38-VP-1, 18-VP-2, 46-VP-1, 8-VP-1, and 38-VP-2 (28.0, 6.1, 0.5, 14.5, and 62.0 mg/Kg sediment total PCBs, respectively) were generally less than the rate of development of the reference site larvae. The rates of development of larvae cultured from sites 23b-VP-1, 23b-VP-2, and 46-VP-5 (0.19, 0.11, and 2.2 mg/Kg sediment total PCBs, respectively) were comparable to the larval development rates for the reference site larvae.

The frequencies of malformation observed in specimens from each of target site sampling locations during the first evaluation period in April 2000 were 7.1% (8-VP-1 [14.5 mg/Kg sediment total PCBs]), 10.4% (38-VP-2 [62.0 mg/Kg sediment total PCBs]), 16.4% (46-VP-5 [2.2 mg/Kg sediment total PCBs]), 16.6% (18-VP-2 [6.1 mg/Kg sediment total PCBs]), 2.4% (23b-VP-1 [0.19 mg/Kg sediment total PCBs]), 2.9% (23b-VP-2 [0.11 mg/Kg sediment total PCBs]), 31.0% (38-VP-1 [28.0 mg/Kg sediment total PCBs]), and 3.9% (46-VP-1 [0.5 mg/Kg sediment total PCBs]) compared to 0.5% for specimens collected from the reference site sampling locations (ND [0.01 mg/Kg] sediment total PCBs).. In May 2000 (second evaluation period), the incidences of malformation in larvae cultured from sites 8-VP-1, 38-VP-2, 46-VP-5,

18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-1, and 46-VP-1 (14.5, 62.0, 2.2, 6.1, 0.19, 0.11, 28.0 and 0.5 mg/Kg sediment total PCBs, respectively) were 10.2%, 12.6%, 36.7%, 26.0%, 3.8%, 5.3%, 32.4%, and 10.5%, respectively.. The incidence of malformation observed in specimens cultured from the reference site sampling locations was 0.4%. During the third evaluation period (June 2000), the incidences of malformation in larvae cultured from sites 8-VP-1, 38-VP-2, 46-VP-5, 18-VP-2, 23b-VP-1, 23b-VP-2, 38-VP-1, and 46-VP-1 (14.5, 62.0, 2.2, 6.1, 0.19, 0.11, 28.0 and 0.5 mg/Kg sediment total PCBs, respectively) were 18.0%, 41.3%, 32.6%, 41.3%, 3.7%, 20.4%, 46.7%, and 11.8%, respectively, compared to 1.7% malformation for larvae cultured from the reference site sampling locations. In July 2000 (fourth evaluation period), the malformation frequencies for larvae cultured from target site locations 8-VP-1, 38-VP-2, 46-VP-5, 18-VP-2, 23b-VP-2, and 46-VP-1 (14.5, 62.0, 2.2, 6.1, 0.11, and 0.5 mg/Kg sediment total PCBs, respectively) were 65.8%, 50.9%, 28.3%, 30.4%, 15.4%, and 14.9%, respectively. Larvae cultured from target site locations 23b-VP-1 (0.19 mg/Kg sediment total PCBs) and 38-VP-1 (28.0 mg/Kg sediment total PCBs) had malformation incidences of 0.0%. Specimens cultured from the reference site locations also had no incidences of malformation for the fourth evaluation period.

A significant relationship between mean larval malformation frequency (Gosner stage 20-24) and total PCB levels in respective sediments was detected (Correlation 8 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.86$, $p<0.05$). No relationship between Phase I egg mass tissue total PCBs levels and the mean incidence of larval malformation was found (Correlation 9 of Table 5 – Spearman’s Rank Correlation, $n=10$, $r=0.50$, $p>0.05$). Further, no relationship between larval tissue total PCB concentrations and the mean incidence of larval malformation was identified (Correlation 10 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.33$, $p>0.05$). It should be noted, however, that the sample types compared (egg mass tissue and larval whole body tissue) were not necessarily related biologically, creating some degree of uncertainty centered around the strength of the biological association. The statistical test utilized was only intended to provide additional insight into the relationship between egg mass tissue residues and larval stage body burdens. The mean malformation frequencies for specimens cultured from all sample site locations during the entire culture period of Phase I are presented in Figure 14.

The proportion of each type of malformation observed in larvae raised in the laboratory from each site is presented in Figures 15-23. Malformation of the tail, notochord, craniofacial region, eye, and mouth were noted as characteristic malformations in lab-reared larvae from sites 38-VP-2, 8-VP-1, 18-VP-2, 38-VP-1, and 46-VP-5 (62.0, 14.5, 6.1, 28.0, and 2.2 mg/Kg sediment total PCBs, respectively). More specifically, axial flexure of the tail resulted from abnormal myotome development. The myotome, a mesodermal derivative, differentiates into the musculature surrounding the skeletal system and possesses contractile properties in the young larvae that often result in the kinking of the tail, when insult to the myotome occurs. Notochord lesions in the anterior portion of the tail resulted in an “osteolathrogenic-like” kinking of the tail. Osteolathrogenic malformations in larval amphibians are the result of abnormal cross-linking of collagen in the notochord. The malformations observed were highly similar to those induced by known osteolathrogenic compounds. However, since no biochemical analysis was performed to determine if the malformations specifically involved abnormal collagen polymerization, the defect was referred to as “osteolathrogenic-like”. Blisters were also found directly on the surface of the tail fin. Morphological distortion of the craniofacial and mouth region, and incomplete development of the lens of the eye were also observed. Abdominal edema was also observed in specimens from these sites. No characteristic malformations beyond baseline effects were noted in malformed larvae from sites 23b-VP-1 and 23b-VP-2 (0.19 and 0.11 mg/Kg sediment total PCBs, respectively), and the reference sites WML-1, -2, and -3 (ND [0.01 mg/Kg] sediment total PCBs).

Mean embryo-larval growth rates for larvae cultured from each of the target and reference sites are presented in Figure 24. None of the larval growth rates were less than the growth rate measured for the mean of the reference sites. In contrast, larvae cultured from site 38-VP-1 grew markedly larger than the reference site specimens. Interestingly, development was found to be markedly slower in cultured larvae from site 38-VP-1 (28.0 mg/Kg sediment total PCBs) [Figure 13] indicating a longer time to metamorphosis. It is important to note that development, including rate and normalcy, and physical growth of larvae may not necessarily be related. Abnormal development may occur without impact on the rate of growth (length or mass). In some cases, the rate of development or growth may be affected without the induction of overt malformation. However, as observed in the present study, delayed development can exacerbate

the induction of malformation by physically increasing the duration of critical developmental windows during which malformations are caused.

Larval Maturation and Metamorphosis

The ability of larvae cultured in the laboratory from each site represented in this study to successfully complete metamorphosis is presented in Figure 25. The percentage of larvae completing metamorphosis relative to the initial number of specimens in culture from sites 38-VP-2, 46-VP-5, and 38-VP-1 (62.0, 2.2, and 28.0 mg/Kg sediment total PCBs, respectively) were 48.2%, 64.0%, and 74.2%, respectively. The proportion of specimens that metamorphosed from site 18-VP-2 (6.1 mg/Kg total PCBs) was 2.4%. The proportion of specimens completing metamorphosis in specimens from sites 23b-VP-1, 23b-VP-2, and 46-VP-1 (0.19, 0.11, and 0.5 mg/Kg sediment total PCBs, respectively) were 11.2%, 17.2%, and 13.3%, respectively. . The proportion of specimens that metamorphosed from the reference sites (ND [0.01 mg/Kg] total PCBs) was 20.4%. No relationships between the proportion of the specimens completing metamorphosis and either metamorph tissue total PCB or sediment total PCB levels at each sampling site were detected (Correlations 11 and 12 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.24$, $p>0.05$; and $n=8$, $r=0.41$, $p>0.05$, respectively).

Results of external morphological examination of the metamorphs collected from the laboratory cultures for each site are presented in Figure 26. The mean incidence of abnormalities in metamorphs raised in the laboratory from target sites 8-VP-1, 38-VP-1, and 38-VP-2 (14.5, 28.0, and 62.0 mg/Kg sediment total PCBs, respectively) were 12.9%, 16.6%, and 16.8, respectively, and 2.5% for the reference sites (ND [0.01 mg/Kg] sediment total PCBs). An elevated rate of abnormality (28.6%) was also detected in specimens cultured from site 18-VP-2 (6.1 mg/Kg sediment total PCBs). The mean incidence of abnormalities in metamorphs raised in the laboratory from sites 46-VP-5, 23b-VP-1, 23b-VP-2, and 46-VP-1 (2.2, 0.19, 0.11, and 0.5 mg/Kg sediment total PCBs, respectively) were 3.1%, 0.7%, 2.0%, and 1.4%, respectively.

Mean metamorph weight from larvae collected from each site is illustrated in Figure 27. Mean metamorph weights in specimens cultured from sites 18-VP-2 and 38-VP-1 (6.1 and 28.0 mg/Kg

total PCBs, respectively) were 0.74 g and 0.61 g, respectively. The mean metamorph weights from the remaining sampling sites, ranging from 0.25 to 0.42 g, were similar to the reference sites weight (0.30 g).

Crossover Exposure Studies

The crossover exposure studies included the following treatment scenarios:

- Reference site WML-1 larvae cultured in site 38-VP-1 media (28 mg/Kg sediment total PCB),
- Reference site WML-2 larvae cultured in site 38-VP-2 media (62 mg/Kg sediment total PCB),
- Target site 38-VP-1 larvae cultured in reference site WML-1 media (0.007 mg/Kg sediment total PCB),
- Target site 38-VP-2 larvae culture in reference site WML-2 media (0.013 mg/Kg sediment total PCB),
- Reference site WML-1 larvae cultured in WML-1 media (from main study), and
- Reference site WML-2 larvae cultured in WML-2 media (from main study).

The results of exposing reference site specimens to target site media and target site specimens to reference site media are presented in Figure 28. None of the cumulative mortality frequencies for each of the four crossover exposures performed were significantly different from either the reference site mortality frequency or each other (t-test, $p < 0.05$).

The effect of the crossover exposure treatments, described previously, on larval malformation during Phase I culture studies is presented in Figure 29. The frequencies of malformation determined during the first evaluation period (April 2000) for each of the four crossover exposures performed were 0.6% for reference site WML-1 larvae cultured in site 38-VP-1 media (28 mg/Kg sediment total PCB), 2.3% for reference site WML-2 larvae cultured in site 38-VP-2 media (62 mg/Kg sediment total PCB), 2.3% for target site 38-VP-1 larvae cultured in reference site WML-1 media (0.007 mg/Kg sediment total PCB), and 0.4% for target site 38-VP-2 larvae

culture in reference site WML-2 media (0.013 mg/Kg sediment total PCB). The incidences of malformation for the reference sites were 0.9% for reference site WML-1 larvae cultured in WML-1 media and 0.5% for reference site WML-2 larvae cultured in WML-2 media. During the second evaluation period (May 2000), the frequencies of malformation were 0.5% for reference site WML-1 larvae cultured in site 38-VP-1 media (28 mg/Kg sediment total PCB), 23.2% for reference site WML-2 larvae cultured in site 38-VP-2 media (62 mg/Kg sediment total PCB), 8.3% for target site 38-VP-1 larvae cultured in reference site WML-1 media (0.007 mg/Kg sediment total PCB), and 26.8% for target site 38-VP-2 larvae culture in reference site WML-2 media (0.013 mg/Kg sediment total PCB). The incidences of malformation for the reference sites were 1.9% for reference site WML-1 larvae cultured in WML-1 media and 0.0% for reference site WML-2 larvae cultured in WML-2 media. The frequencies of malformation determined during the third evaluation period (June 2000) for each of the four crossover exposure treatments were 26.1% for reference site WML-1 larvae cultured in site 38-VP-1 media (28 mg/Kg sediment total PCB), 30.5% for reference site WML-2 larvae cultured in site 38-VP-2 media (62 mg/Kg sediment total PCB), 26.5% for target site 38-VP-1 larvae cultured in reference site WML-1 media (0.007 mg/Kg sediment total PCB), and 30.1% for target site 38-VP-2 larvae culture in reference site WML-2 media (0.013 mg/Kg sediment total PCB). The incidences of malformation for the reference sites were 2.3% for reference site WML-1 larvae cultured in WML-1 media and 1.1% for reference site WML-2 larvae cultured in WML-2 media. In the final evaluation period (July 2000), the incidence of malformation in each of the crossover treatments were 34.7% for reference site WML-1 larvae cultured in site 38-VP-1 media (28 mg/Kg sediment total PCB), 40.2% for reference site WML-2 larvae cultured in site 38-VP-2 media (62 mg/Kg sediment total PCB), 27.2% for target site 38-VP-1 larvae cultured in reference site WML-1 media (0.007 mg/Kg sediment total PCB), and 37.6% for target site 38-VP-2 larvae culture in reference site WML-2 media (0.013 mg/Kg sediment total PCB). The incidences of malformation for the reference sites were 2.0% for reference site WML-1 larvae cultured in WML-1 media and 0.0% for reference site WML-2 larvae cultured in WML-2 media. Overall, these results suggested that exposure duration was a primary factor in the induction of the effects observed.

Larval growth in each of the crossover experiments relative to the reference site specimens is presented in Figure 30. Appreciable PCBs accumulation in reference site egg masses/larvae cultured in target site media occurred, whereas little PCB accumulation was observed in target site specimens cultured in reference site media.

The effect of the previously described crossover study treatments on metamorphic completion during Phase I culture studies is presented in Figure 31. Specimens from the reference sites completed metamorphosis at a frequency of 23.0% and 12.8% for WML-1 and WML-2, respectively. The percentage of specimens completing metamorphosis in the crossover exposure treatments (reference site WML-1 larvae cultured in site 38-VP-1 media, WML-2 cultured in target site 38-VP-2 media, target site 38-VP-1 larvae cultured in reference site WML-1 media, and target site 38-VP-2 larvae culture in reference site WML-2 media) were 32.7%, 19.2%, 32.0%, and 30.0%, respectively. All four crossover treatment malformation frequencies in metamorph specimens were significantly greater than the respective reference sites metamorph abnormality rates (t-test, $p < 0.05$) [Figure 32]. However, the abnormality frequencies in metamorphs from either crossover treatments were not significantly different from each other (t-test, 1 tail, 0.005). The effect of the crossover treatments on metamorph weight is presented in Figure 33. As was noted with larval growth, little impact on metamorph weight was detected in the crossover treatments relative to the reference sites or each other (t-test, $p < 0.005$).

Aroclor 1260-Spiked Sediment

The impact of exposing reference site specimens (site WML-3) (ND [0.011mg/Kg] sediment total PCBs) to corresponding reference site water and sediment spiked with 30 mg/Kg Aroclor 1260 on larval mortality during Phase I culture studies is presented in Figure 34. The cumulative mean mortality rate for specimens cultured in reference site water and 30 mg/Kg Aroclor 1260-spiked sediment was not significantly different than the reference site mortality rate (t-test, $p < 0.005$).

The impact of exposing reference site specimens (site WML-3) to corresponding reference site water and sediment spiked with 30 mg/Kg Aroclor 1260 on larval malformation, during Phase I

culture studies, is presented in Figure 35. The frequencies of malformation of culture d 0 (stage 17), d 11 (stage 24), d 47 (stage 34), and d 74 (stage 40) for WML-3 specimens exposed to the unspiked WML-3 media were 0.0%, 0.5%, 0.4%, and 1.7%, respectively. In contrast, the frequencies of malformation on culture d 0 (stage 20), d 31 (stage 24), and d 59 (stage 38) for WML-3 specimens exposed to the 30.0 mg/Kg Aroclor 1260 spiked sediment were 0.0%, 5.3%, and 22.9%, respectively. Although data on d 79 was collected for the spiked treatment, no data were reported since only two larvae survived. The rate of larval growth in the Aroclor 1260-spiked sediment treatment on study d 11 was not statistically different than the rate in reference site larvae (t-test, $p < 0.005$) [Figure 36]. In summary, the larval malformations were detected in specimens exposed to the Aroclor 1260-spiked reference site sediment, most notably, during the latter evaluation period. Accumulation of total PCB levels was detected in reference site egg mass/larval specimens cultured in reference site sediment spiked with 30 mg/Kg Aroclor 1260.

The impact of exposing reference site specimens (site WML-3) to Aroclor 1260-spiked reference site sediment and water on metamorphic completion during Phase I culture studies is presented in Figure 37. Approximately 69.0% of reference site specimens cultured in Aroclor 1260 spiked sediment completed metamorphosis, whereas 25.3% of the reference site specimens cultured in reference site media completed metamorphosis. However, a greater proportion of metamorph specimens from the Aroclor 1260-spiked sediment treatment were identified as abnormal (11.6%) compared to the unspiked reference sediment (0.6%) (t-test, $p < 0.05$) [Figure 38]. However, as noted with the other similar Phase I studies, metamorph weight was not appreciably altered by exposing the reference site specimens to the Aroclor 1260-spiked sediment, compared to the reference site specimens cultured in reference site media (t-test, $p < 0.05$) [Figure 39].

Phase II

Tissue Residue Analysis

Tissue residue analyses from specimens collected during Phase II studies are presented in Table 4. Larval tissue analysis was performed on specimens collected from Events 1 and 3, with the exception of 38-VP-1 (28.0 mg/Kg sediment total PCBs). No specimens were found at this site

during Event 3 sampling, requiring tissue analysis of a sample collected during Event 4. The relationship between Phase II tissue sample total PCBs and sediment total PCB levels is depicted in Figure 40. Event 1 represented young larvae (ca. stage 25), whereas Event 3 represented prometamorphic larvae (ca. stage 42). Collection of Event 1 specimens was separate by at least 6 weeks from Event 3 specimens. Tissue analyses for Phase II studies were limited to whole larvae total PCBs. Larval tissue total PCB levels in Event 1 specimens ranged from 0.28 mg/Kg site 46-VP-1 (0.5 mg/Kg tissue total PCBs) to 3.4 mg/Kg site 23b-VP-1 (0.19 mg/Kg tissue total PCBs). Larval specimens collected from the reference sites WML-1 and WML-3 during Event 1 contained 0.07 and 0.02 mg/Kg tissue total PCBs. Larval tissue total PCB levels in Event 3 specimens ranged from 0.09 mg/Kg from site 23b-VP-2 (0.11 mg/Kg sediment total PCBs) to 3.5 mg/Kg from site 8-VP-1 (14.5 mg/Kg sediment total PCBs). Larval tissue samples collected nearly two weeks later during event 4 from site 38-VP-1 (28.0 mg/Kg sediment total PCBs) contained 10.4 mg/Kg. No relationship between tissue total PCB levels in young larvae collected from Event 1 and sediment total PCB levels was detected (Correlation 13 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.42$, $p>0.05$). However, a significant relationship between tissue total PCB levels in older larvae collected from Event 3 and sediment total PCB levels was found (Correlation 14 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.93$, $p<0.005$). Essentially, these results suggested that there was no detectable trend or systematic pattern in tissue total PCB levels from the first Phase II larval sampling event to the third event. In the early embryo-larval stages, sediment total PCB levels did not appear to be an indicator of larval tissue total PCB concentrations. Regardless of the event sampled, specimens collected from the target sites accumulated PCBs at a greater magnitude than was observed in the reference organisms. In fact, all target site tissue samples exceeded reference site total PCB levels. It was also interesting to note that specimens collected from the vernal pools containing the greatest sediment total PCB concentrations (8-VP-1, 38-VP-1, and 38-VP-2; 14.5 mg/Kg, 28.0 mg/Kg, and 62.0 mg/Kg sediment total PCBs) demonstrated an appreciable increase in larval tissue total PCBs from the first to the third event.

Larval Malformation and Growth

Event 1

The incidence of malformation and rates of growth obtained in larval field specimens collected at the target and reference sites during Event 1 are presented in Figures 41 and 42, respectively. The estimated state of development was Gosner stage 23-25 (embryo-larval/premetamorphic). The Event 1 baseline frequency of deformity for specimens collected from the reference sites was 6.7%. Nearly all of the larvae collected from site 38-VP-1 (28.0 mg/Kg sediment total PCBs) during Event 1 were malformed. In addition, elevated malformation frequencies were also found in larvae collected from sites 8-VP-1 (14.5 mg/Kg sediment total PCBs) [mean 53.0%], 46-VP-1 (0.5 mg/Kg sediment total PCBs) [mean 39.3%], and 38-VP-2 (62.0 mg/Kg sediment total PCBs) [mean 31.5%]. Slightly elevated malformation frequencies were identified in field larvae collected at sites 23b-VP-1 (0.19 mg/Kg sediment total PCBs) [17.1%] and 23b-VP-2 (0.11 mg/Kg sediment total PCBs) [19.6%]. The malformation frequency in field specimens collected at site 46-VP-5 (2.2 mg/Kg sediment total PCBs) was 8.8%. No relationships between the incidence of malformations observed in field specimens collected and either sediment total PCB concentrations, in their respective vernal pools, or tissue total PCB concentrations were detected (Correlations 15 and 16 of Table 5 – Spearman's Rank Correlation, $n=10$, $r=0.44$, $p>0.05$; and $n=10$, $r=0.20$, $p>0.05$, respectively). The mean larval growth in specimens collected from target site vernal pools ranged from 1.05 to 1.43 cm. The mean reference site growth was 1.30 cm..

Event 2

The incidence of malformation and rates of growth obtained in larval field specimens collected at the target and reference sites during Event 2 are presented in Figures 41 and 42, respectively. The estimated state of development was Gosner stage 38-40 (prometamorphic). The Event 2 baseline deformity rate for specimens collected from the reference sites was <5%. Malformation rates across each of the sampling sites were markedly lower than those observed in Event 1. Only abnormality rates in specimens collected from sites 38-VP-1 (28.0 mg/Kg sediment total

PCBs) [$>40\%$] were above the baseline reference site deformity rate. No relationship between the incidence of malformations observed in field specimens collected to sediment total PCB concentrations in their respective vernal pools was found (Correlation 17 of Table 5 – Spearman's Rank Correlation, $n=10$, $r=0.32$, $p>0.05$). The mean larval growth range in specimens collected at target vernal pool sites varied from 1.77 to 3.44 cm. The mean larval growth in specimens from the reference site locations was 2.31.

Event 3

The incidence of malformation and rates of growth obtained in larval field specimens collected at the target and reference sites during Event 3 are presented in Figures 41 and 42, respectively. No specimens were found at target site 38-VP-1 for Event 3. The estimated state of development was Gosner stage 40-42 (prometamorphic/metamorphic climax). The Event 3 baseline deformity rate for specimens collected from the reference sites was $<3.0\%$. The frequency of malformation across each of the sampling sites were generally lower than those observed in Event 1, but greater than rates observed in Event 2. The incidence of abnormalities in specimens collected from sites 46-VP-1 (0.5 mg/Kg sediment total PCBs) and 18-VP-2 (6.1 mg/Kg sediment total PCBs) were 50.0% and 33.3%, respectively. The frequency of malformation in specimens collected from sites 46-VP-5 (2.2 mg/Kg sediment total PCBs), 23b-VP-2 (0.11 mg/Kg sediment total PCBs), and 23b-VP-1 (0.19 mg/Kg sediment total PCBs) were 10.3%, 7.5%, and 5.6%, respectively. The baseline rate of malformation measured in the reference site specimens was 2.5%. No relationships between the incidence of malformations observed in field specimens collected and either sediment total PCB concentrations in their respective vernal pools or tissue total PCBs were noted (Correlations 18 and 19 of Table 5 – Spearman's Rank Correlation, $n=9$, $r=0.001$, $p>0.05$; and $n=10$, $r=-0.20$, $p>0.05$, respectively). The mean larval growth in specimens collected at target vernal pool sites ranged from 3.25 to 4.58 cm. The mean larval growth in specimens from the reference sites was 3.47 cm.

Event 4

The incidence of malformation and rates of growth obtained in larval field specimens collected at the target and reference sites during Event 4 are presented in Figures 41 and 42, respectively. The estimated state of development was Gosner stage 42-45 (metamorphic climax). The Event 4 baseline deformity frequency for specimens collected from the reference sites was ca. 1.0%. The frequency of malformation across each of the sampling sites were generally lower than those observed in Event 1, but greater than rates observed in Events 2 or 3. The incidence of abnormalities in specimens collected from sites 38-VP-2 (62.0 mg/Kg sediment total PCBs) and 8-VP-1 (14.5 mg/Kg sediment total PCBs) were 72.2% and 27.3%, respectively. Malformation frequency in specimens collected from sites 38-VP-1, 23b-VP-1, , 18-VP-2, 46-VP-5, 46-VP-1, and 23b-VP-2 (28.0, 0.19, 6.1, 2.2, 0.5, and 0.11 mg/Kg sediment total PCBs, respectively) were 10.9%, 4.4%, 5.5%, 3.5%, 2.0%, and 0.0%, respectively. The baseline frequency measured in the reference site specimens was 0.9%. A significant relationship between the incidence of malformations observed and sediment total PCB concentration was observed (Correlation 20 of Table 5 – Spearman's Rank Correlation, $n=10$, $r=0.89$, $p<0.002$). Growth was measured, but not reported for Event 4 specimens due to inability of discriminating growth effects due to metamorphosis (i.e., tail resorption).

Mean Malformation Response and Characteristic Malformations

Because malformations in developing embryos and larvae can be induced at different windows during development, the overall mean incidence of larval malformation for each site was also evaluated as a means of determining which sites possessed the greatest potential to induce abnormal development and describe the relationship between sediment total PCB levels and larval malformation. Thus, the mean frequency of malformation during the entire sampling was determined for each site. The mean incidence of malformation for sites 8-VP-1, 38-VP-2, 46-VP-5, 18-VP-2, 23b-VP-1, 23b-VP-2 38-VP-1, and 46-VP-1 (14.5, 62.0, 2.2, 6.1, 0.19, 0.11, 28.0, and 0.5 mg/Kg sediment total PCBs) were 20.1%, 27.5%, 6.5%, 11.6%, 7.6%, 6.8%, 51.2%, and 23.7%, respectively. The mean incidence of malformation for the reference site larvae was <5.0%. A significant relationship between the mean incidence of malformations

observed over events 1-4 and sediment total PCB concentration was detected (Correlation 21 of Table 5 – Spearman's Rank Correlation, $n=10$, $r=0.83$, $p=0.005$).

Characteristic malformations detected during Phase II studies are summarized in Figures 43-51. Characteristic malformations are the defects in various organ system that comprise a syndrome caused by a stressor or stressors. Characteristic malformations are determined by evaluating which deformities are consistently induced at a frequency greater than a reference subject and increase in severity with either increased concentration or exposure to a given stressor. Evaluation of malformation types using this criteria helps reduce the inadvertent inclusion of non-specific malformations in the descriptive evaluation. The characteristic malformations observed in specimens collected from site 8-VP-1 (14.5 mg/Kg sediment total PCBs) were abnormal coiling of the gut, craniofacial defects, abnormal development of the lens of the eye, microcephaly, mouth defects, and visceral hemorrhage. Characteristic abnormalities identified in larvae collected from site 38-VP-2 (62.0 mg/Kg sediment total PCBs) included mis-coiling of the gut, visceral edema, muscular based flexure of the tail (abnormal myotome development), notochord lesions (flexure), and visceral hemorrhage. Malformation of the gut, visceral edema, abnormal development of the craniofacial region and lens of the eye, microcephaly, and visceral hemorrhage were found to be characteristic abnormalities in specimens collected from site 38-VP-1 (28.0 mg/Kg total PCBs). Larvae collected from sites 46-VP-5 and 18-VP-2 (2.2 and 6.1 mg/Kg sediment total PCBs, respectively) possessed a slightly greater incidence of abnormal gut development and visceral edema, but well below that observed in larvae collected from sites 8-VP-1, 38-VP-2, and 38-VP-1 (14.5, 62.0, and 28.0 mg/Kg sediment total PCBs, respectively). Malformations observed at the three sites with greater total PCB sediment contamination were generally the most severe and would most likely have a greater affect on the overall health and fecundity of this local population. Although sporadic malformations were detected at reasonably low incidence rates, no characteristic abnormalities were detected in larvae collected from the remaining sites including the reference sites. Identification of characteristic malformations was important in evaluating whether the responses observed were consistent and may be the result of environmental stressors in the pools from which the specimens were collected. A photo atlas, detailing characteristic malformations observed during Phase II, is presented in Appendix G.

Phase III

Tissue Residue Analysis

Tissue residue analyses from specimens cultured and collected during Phase III studies are presented in Table 4. Total PCBs found in Phase III whole body metamorph samples at each of the sites evaluated are presented in Figure 52. A comparison between total PCB tissue residues found in metamorphs from Phase I (laboratory) and Phase III (field) is provided in Figure 53. Tissue analysis was performed on metamorph collected from each of the vernal pools including target locations. Tissue analyses for Phase III studies included total PCBs, congeners, PAHs, dioxins and furans, and Appendix IX pesticides and metals for sites 8-VP-1, 18-VP-2, 38-VP-1, and WML-1 (14.5, 6.1, 28.0, and ND [0.007] mg/Kg sediment total PCBs). Complete results from these analyses are included as Appendix F. The remaining site samples were analyzed for total PCBs. Total PCB levels in the whole metamorph tissue samples ranged from 0.13 mg/Kg in specimens collected from site 46-VP-1 (0.5 mg/Kg sediment total PCBs) to 15.0 mg/Kg in specimens from site 8-VP-1 (14.5 mg/Kg sediment total PCBs). Metamorph specimens collected from reference site WML-1 contained 4.4 mg/Kg tissue total PCBs. A significant relationship between metamorph tissue total PCB concentration and respective sediment total PCB levels was found (Correlation 22 of Table 5 – Spearman’s Rank Correlation, $n=9$, $r=0.70$, $p=0.05$). Total Appendix IX pesticides ranged from 0.03 mg/Kg (site 38-VP-1) to 0.7 mg/Kg (site 8-VP-1). Metamorph specimens collected from reference site WML-1 contained nearly 0.2 mg/Kg tissue Appendix IX pesticides. Generally, low levels of total tissue dioxins and furans were detected in the metamorph samples evaluated. Total dioxin and furan samples ranged from 12.8 ng/Kg (site 18-VP-2) to 63.0 ng/Kg (site 8-VP-1) with ND found in the reference site sample from site WML-1. Total metamorph tissue PAHs ranged from 0.06 mg/Kg to 0.8 mg/Kg in specimens collected from sites 38-VP-1 and 18-VP-2, respectively. Metamorph specimens collected from the reference site WML-1 contained 0.3 mg/Kg total tissue PAHs and ND, respectively. Of the Appendix IX metals analyzed, the only metal detected in tissue samples at somewhat elevated levels was Pb. Pb levels in whole metamorph tissue samples ranged from 1.0 mg/Kg in samples collected from site 38-VP-1 to 1.9 mg/Kg in samples from site 8-VP-1. The total Pb level detected in metamorph tissue collected from reference site WML-1 was approximately 0.06

mg/Kg. In general, only total PCBs were appreciably greater in target site metamorph tissue samples than reference site tissue samples. The other analytes were detected in similar concentrations in the target site specimens and the reference site specimens.

Metamorph Development and Growth

The sex ratios of metamorph specimens collected during Phase III sampling efforts and the incidence of malformation at each respective target and reference sites are provided in Figure 54. Sex ratios (male:female) in the reference site metamorphs (sites WML-1 and -3) were reasonably well-balanced with a 46.1%:53.9%. Skewing of sex ratios toward the female gender was noted in specimens collected from sites 8-VP-1 (0%:100%), 38-VP-2 (19.2%:80.8%), 38-VP-1 (20.0%:80.0%), 18-VP-2 (31.2%:68.8%), and 46-VP-5 (33.7%:66.3%) (14.5, 62.0, 28.0, 6.1, and 2.2 mg/Kg sediment total PCBs, respectively). Specimens examined from the remaining target site locations produced sex ratios in the 40-60 %:60-40 % male:female range, which is normal for most amphibian populations (Gilbert et al, 1994; Merrell, 1977; Reeder et al, 1998; and Stebbins and Cohen, 1995). Significant negative correlations between sex ratio skew (feminization) in metamorphic specimens and total PCB levels in both whole body tissue and sediment were detected (Correlations 23 and 24 of Table 5 – Spearman's Rank Correlation, n=8, $r=-0.91$, $p=0.005$; and n=8, $r=-0.80$, and $p<0.05$, respectively). Metamorph abnormality frequencies, determined by both external examination and necropsy, from target sites 23b-VP-1, 23b-VP-2, 46-VP-1, and 46-VP-5 (0.19, 0.11, 0.5, and 2.2 mg/Kg sediment total PCBs) were 4.9%, 5.9%, 8.6%, and 9.2%, respectively. The incidence of abnormality in metamorphs from the reference sites was 2.0%. The frequency of abnormalities from target sites 8-VP-1, 38-VP-2, 18-VP-2, and 38-VP-1 (14.5, 62.0, 6.1, and 28.0 mg/Kg sediment total PCBs, respectively) were 66.7%, 51.5%, 26.9%, and 41.0%, respectively, with a slightly greater proportion of abnormal specimens being female (Figure 55). Of the specimens examined from these sites, characteristic abnormalities found were abnormal development of the lens of the eye, necrosis of the liver, gonadal necrosis, mal-positioning (translocation) of the gonads, abnormal maturation of the skin including incomplete dispersion of melanin in the melanocytes, cardiac and cardio-vascular mal-development, and visceral and abdominal edema. Several cases of fore- and hind limb mal-development were also found in specimens collected from site 38-VP-2. Of these abnormalities,

gonadal mal-development and liver necrosis were the two most consistent abnormalities identified. Significant relationships between the incidence of abnormal metamorph specimens and both total PCB levels in whole body tissue and sediment were identified (Correlations 25 and 26 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.81$, $p<0.05$; and $n=10$, $r=0.93$, $p=0.001$, respectively).

Mean metamorph weights measured in specimens collected at each respective site including the reference locations are presented in Figure 56. Of the parameters measured during Phase III studies, weight was the least sensitive endpoint measured. Each of the mean weights recorded for the metamorph specimens collected for the target site locations ranged from 0.42 to 0.89 g. The mean metamorph weights of the reference site specimens were 0.33 g.. No relationships between metamorph specimens weight and either total PCB levels in whole body tissue or sediment were found (Correlations 27 and 28 of Table 5 – Spearman’s Rank Correlation, $n=8$, $r=0.57$, $p>0.05$; and $n=8$, $r=0.20$, $p>0.05$, respectively)

Quality Assurance

The study Quality Assurance/Quality Control Plan is presented in Appendix H.

DISCUSSION

Phase I

Although total PCB accumulation was found in varying magnitudes in egg masses collected from the different target site vernal pools, little effect on egg mass characteristics, including weights, egg counts, egg necrosis, fertilization rates, and hatching rates, was detected when compared to the reference site egg masses. The inability to measure significant effects on reproductive outcome in the more greatly contaminated vernal pools may, in part, be due to natural variability in these endpoints. However, no relationship between these endpoints and total sediment PCB concentration was found (see Table 5). In addition, no relationship between egg mass tissue total PCBs and total sediment PCBs was found. Overall, the inability to consistently detect appreciable differences in mean egg mass weight, egg mass counts; fertilization, necrosis, and hatching success between sites suggested reproductive performance and outcome in *R. sylvatica* was most likely not adversely affected in this study. Interestingly, the greatest egg mass tissue concentrations of total PCBs were found in sites with relatively low or non-detectable levels of total PCBs. Since this study focused primarily on wood frog development, starting with newly laid egg masses, little is directly known about the parental generation that supplied the egg masses collected during this study other than the total PCB levels in their respective egg masses. Indirectly, however, this data suggested the home range of *R. sylvatica* appeared to allow adults with differing total PCB body burdens to breed in various vernal pools throughout the study area.

Both geographical and temporal factors determined the extent of PCB and other COPCs bioaccumulation in larval and metamorph specimens cultured and examined in the laboratory. Generally, the relationship between sediment and tissue total PCB or other COPC levels was greater in older larval and metamorph samples than in either of younger larval or egg mass samples. Tissue total PCB burden in metamorph specimens was not a critical factor in determining the total PCB level in the egg mass from which the specimens originated. Egg masses with greater tissue total PCB levels collected from the lesser contaminated vernal pools showed prominent decreases in total PCB levels over time as the specimens metamorphosed.

Crossover exposure studies in which reference specimens were cultured with contaminated site media and specimens from contaminated vernal pools were cultured with reference site media demonstrated that PCBs were bioaccumulated by the test organisms during culture. These crossover studies also confirmed that net decreases in tissue total PCB levels occurred in egg mass specimens originally containing greater levels of total PCBs when cultured in uncontaminated site water and sediment through metamorphosis. Sediment spiking studies further demonstrated the propensity of uncontaminated larvae to bioaccumulate PCBs.

Associating the PCB bioaccumulation potential of *R. sylvatica* embryos, larvae, and metamorphs with toxicological response, however, was significantly more challenging. The most striking endpoint monitored in Phase I studies in terms of sensitivity was malformation. As previously indicated, early embryo development through hatching was not adversely impacted by exposure to the COPCs considered in this study. However, the relationship between sediment total PCB concentrations and the frequencies of malformation in specimens cultured in the laboratory was evident in Phase I Gosner stage 20-24 larval specimens (Spearman's Rank Correlation, $n=8$, $r=0.86$, $p<0.05$). Results from these studies, as well as Phase II and III studies, suggested that the larval tissue was serving as a reservoir, effectively accumulating PCBs over the course of the exposure period, and that this accumulation may have been related to the incidence of malformation during the study.

No correlation between egg mass tissue total PCB concentrations and Phase I larval malformation was detected, although it is noted that this is not a true biological comparison. Overall, these results suggested the extent of PCB accumulation from their culture environment related better with the incidence of malformations in the specimens examined, than the maternally transferred fraction of PCBs found in the egg masses. The incidence of malformation that was induced in the crossover studies, in which reference site specimens were cultured in contaminated media and specimens from contaminated sites were exposed to reference media, was reasonably similar. Thus, the importance of both maternal PCB transfer and environmental exposure cannot be overlooked. It is possible that maternal PCB transfer to the eggs and environmental exposure contributed to the malformation observed in early larval development,

whereas sediment exposure during development contributed to the effects observed in later development.

The malformations (syndrome) observed in specimens from sites 38-VP-2, 38-VP-1, 8-VP-1, 18-VP-2, and 46-VP-5 were similar in nature differing only the incidence rate and the severity of the deformity. Characteristic malformations included mal-development of the craniofacial region and mouth (hypognathia), abdominal edema, abnormal myotome development, incomplete development of the eye, and notochord lesions resulting in tail flexure. Growth, in terms of the linear length of the developing larvae or the weight of the metamorphs, was variable and somewhat difficult to interpret primarily due to slow development in specimens from the most highly contaminated sites. No apparent relationship between metamorphic completion and either sediment total PCBs or tissue total PCBs was detected in Phase I metamorph specimens. However, more importantly, the proportion of abnormal metamorphs from the more highly PCB contaminated sites was generally greater than the lesser-contaminated sites and the reference sites. Variability in metamorph weight was not necessarily unexpected as extremely tight control of culture conditions or extreme sampling requirements are required. These requirements are not usually practicable in field-to-laboratory studies.

Phase II

As noted with Phase I studies, a significant amount of total PCB accumulation was found between the early and later events in the more significantly contaminated vernal pools. These results also indicated that the larvae collected were accumulating these PCB from the contaminated sediment in the field. A significant relationship existed between sediment total PCB concentrations and tissue total PCB levels for Event 3 specimens (Spearman's Rank Correlation, $n=8$, $r=0.93$, and $p<0.005$). The frequency of malformation varied from Event 1 to Event 4 in the more contaminated target sites. For example, during Event 1, which represented Gosner stages 23-25, the incidence of malformation was elevated in each of sites 38-VP-1, 8-VP-1, 38-VP-2, and 46-VP-1. However, in Event 2 (Gosner stages 38-40) the frequency of malformation in specimens collected from any of the sites was relatively low. During Event 3 (Gosner stages 40-42), only the malformation frequency for site 46-VP-1 was elevated compared

to the reference sites. Sites 38-VP-2, 8-VP-1, and 38-VP-1 displayed a greater frequency of malformation during Event 4 (Gosner stage 42-45). Based on these results, Event 1, which represented early embryo-larval development, and Event 4, which represented advanced metamorphic development, were the most sensitive stages, based on the total incidence of malformation. A strong relationship was established between the incidence of malformation during Event 4 and sediment total PCB concentrations.

Overall, a strong relationship between the mean incidence of malformation in Phase II specimens and sediment total PCBs was detected (Spearman's Rank Correlation, $n=9$, $r=0.83$, $p=0.005$). These results suggested that although early embryo-larval and metamorphic developmental periods appeared to be the most sensitive in this study and that Event 4 malformation frequencies correlated with sediment total PCB levels, a relationship between sediment total PCB levels and larval malformation could also be established by evaluating the entire exposure period as a whole. Thus, the early developmental effects noted during Event 1 may not have required the accumulation of PCBs in the developing tissue, whereas effects observed in the later events seemed to be influenced more by the sediment total PCB concentration. Characteristic malformations induced in the specimens collected from the target sites demonstrating greater incidence of abnormality included abnormal coiling of the gut, mal-development of the lens of the eye, microcephaly, abnormal development of the face, mouth, and cranium, abdominal edema, visceral hemorrhage, and flexure of the tail resulting from both abnormal myotome development and lesions on the notochord.

No effects on larval growth were found in the specimens collected during Phase II. As was noted in Phase I studies, growth in terms of the linear length of the developing larvae was variable amongst the sites and somewhat difficult to interpret.

Phase III

Skewed sex ratios and increased rates of abnormalities in metamorph specimens collected from target site vernal pools with greater levels of PCB contamination were the primary findings in Phase III studies. Metamorph specimens collected from sites 8-VP-1, 38-VP-2, and 38-VP-1

were predominantly female (100%, 80.8%, and 80.0%, respectively). These results suggested that exposure to PCB in the more highly contaminated vernal pools was capable of altering sexual development at a phenotypic level. Although feminization was primarily observed, which does not typically influence population as dramatically as de-feminization or masculinization, in general, consistent sex ratio skewing over time is capable of adversely impacting the local population. The primary abnormalities identified in metamorph specimens included atresia and necrosis of gonadal tissue, mis-location of gonadal tissue; liver lesions, necrosis, tumors, and general discoloration; mal-development of the lens of the eye; abnormal maturation of the skin; cardio-vascular necrosis, and abdominal edema. Of these abnormalities, the gonad and liver were the primary targets and would appear to have the greatest consequence on the health and fecundity of the metamorph. Abnormal maturation of the skin, which was characterized by atypical melanin production and abnormal pigment distribution within normal-appearing melanocytes was also observed. In amphibians, skin maturation is under the control of the thyroid axis, suggesting that this effect may have been result of thyroid axis disruption. We have found that abnormal skin maturation involving a reduction in melanin or abnormal melanin distribution reduces the capacity of the metamorph to effectively control UV light absorption (Fort et al., unpublished data). Inability to regulate UV light absorption effectively increases the probability of UV light damage. Changes in toxicodynamic absorption properties of the skin also do not occur when this aspect of metamorphosis is repressed, effectively increasing the likelihood of absorption of lipophilic materials. The remaining abnormalities were, in general, less severe, but nonetheless present in an elevated proportion of the metamorphs examined.

A significant relationship was detected between sediment total PCB levels in vernal pools, in which metamorph specimens were collected, and tissue residues in the metamorph specimens (Spearman's Rank Correlation, $n=9$, $r=0.70$, $p=0.05$). Further, the skews in sex ratios (feminization) in the Phase III metamorphs were both negatively related to the sediment or tissue total PCBs (Spearman's Rank Correlation, $n=8$, $r=-0.80$, $p<0.05$; and $n=8$, $r=-0.90$, $p=0.005$, respectively). A strong relationship between the incidence of abnormalities in Phase III metamorph specimens and either sediment or tissue total PCBs was found (Spearman's Rank Correlation, $n=10$, $r=0.93$, $p=0.001$; and $n=8$, $r=0.81$, $p<0.05$, respectively).

No relationship between metamorph weight and sediment total PCB levels was identified. As with the other phases of this study, weight (growth) was the least sensitive endpoint and the endpoint that was most difficult to interpret. Generally, metamorph specimens collected from the target site vernal pools were larger than the reference area. This phenomenon may be the result of habitat and climatic differences between the reference area (Washington Mountain Lake), which is at a greater elevation and generally has a cooler temperature during the spring when samples were collected, and the target site vernal pools, which are located at a lower elevation.

Relationship Between Different Phases of the Present Study

As a means of corroborating the results of this study, a more controlled laboratory-based culture study was conducted in Phase I, where field-based assessments were performed in Phases II and III. Although field-to-laboratory and laboratory-to-field extrapolations are difficult to make, ideally, the results from Phase I cultures should be reasonably consistent with results collected in Phases II and III. Comparing the larval growth phase response results observed in Phase I laboratory cultures to the four larval sampling Events of Phase II, both Phases showed marked PCB accumulation potential. A strong relationship between tissue total PCB residues and sediment total PCB levels in prometamorphic larvae and metamorphs was found in Phase II or Phase III studies, respectively. Each Phase of study showed a relationship between the mean incidence of malformation and the levels of total PCBs in either the sediment or respective tissues of the prometamorphic larvae or metamorphs from Phases II and III, respectively. Event 4 of the Phase II study showed the greatest degree of correlation between sediment total PCB levels and the incidence of malformation. This trend of greater degrees of correlation between tissue or sediment total PCB concentrations and mal-development with specimens' age or exposure period was consistent throughout each Phase of the present study. Larval and metamorph weight was the least sensitive endpoint measured in each of the Phases, whereas abnormality rates were the most important endpoint measured in each of the Phases of study. Overall, results from each Phase of the present study are reasonably consistent with one another, strengthening the results of the study as a whole.

Relationship to “*Rana pipiens* Reproduction and Development Study”

The primary objective of conducting the present study was to ensure that adequate amphibian developmental data would be collected for the lower Housatonic River study area in the event that the originally proposed “*Rana pipiens* Reproduction and Development Study” failed to produce adequate developmental data. Since adequate developmental data was not obtained from the “*Rana pipiens* Reproduction and Development Study” due to profound effects on the reproductive performance of the study specimens, the present study filled many data gaps in our understanding of the impact of PCB and other COPC contaminated sediment on amphibian development and maturation. In the former study with *R. pipiens*, the most striking effect on the lifecycle of *R. pipiens* was reproduction. Although developmental effects were found in *R. pipiens*, reproduction was almost exclusively inhibited by the toxicological effects of PCBs, and to a lesser extent, the other COPCs. In contrast, *R. sylvatica* reproduction did not appear to be adversely affected in the present study. This marked difference in life phase response may be partially explained by the differences in life history strategies between the two species. Wood frog adult females are explosive, and typically impulsive breeders. Breeding season for wood frogs is short, often over several days to a week period, but extremely intensive. After egg-laying is complete, the adults vacate the breeding pools allowing the progeny to develop on their own. Leopard frogs, however, are much more selective and deliberate during breeding season often requiring several weeks to a month to complete breeding. Unlike *R. sylvatica*, *R. pipiens* adults remain in close contact with the egg masses during at least part of development. The more deliberate nature of mating and nurturing behavior in *R. pipiens* may increase likelihood of adult exposure to environmental contaminants. On the contrary, the more rapid process of mating and less nurturing approach used by *R. sylvatica* may decrease the likelihood of adult exposure during breeding. This scenario does not account for exposure and accumulation that occurs during the remainder of the year. Thus, other endocrinological and physiological differences between the species, in addition to differences in life history traits, may confer sensitivity to a particular phase of the lifecycle.

Selection of two species with different life history strategies was significantly advantageous to the overall study of the impact of PCBs and other COPCs in the lower Housatonic River on local populations of amphibians, as these two species broadly account for the spectrum of reproductive and developmental strategies used by most anuran species. However, it should be noted that this study also clearly points out that it can not be assumed that all amphibian species are similar in terms of lifecycle dynamics. Thus, extrapolation to other amphibian species should still be performed with some sense of caution.

Comparison with Other Studies

PCB concentrations in amphibian tissue collected from the field have been measured primarily in adult specimens, and are typically not accompanied by environmental concentrations. Thus, the presence of PCBs in amphibian tissues is fairly well documented, however, specific bioconcentration factors (BCFs) have generally not been determined for amphibians. It has been generally assumed based on several studies described in the following sections that PCBs accumulate in amphibians at least to the extent found in fish (Eisler, 1986).

Following a fire at a PCB warehouse (Phaneuf et al., 1995) investigated PCB concentrations in several species in both reference locations and downwind along the smoke plume produced by the fire. Total PCB levels in *R. clamitans* and *R. pipiens* collected from the plume area were in the order of 0.9 mg/Kg and were as great as ca. 1.1 mg/Kg, whereas the mean value from the reference site was 0.08 mg/Kg. These investigators concluded that the measured values in the two frog species was less than that observed in bird eggs, similar to that observed in field mice, and greater than that observed in earthworms, and bird and muskrat liver. In a study designed to evaluate the movement of PCBs through the food chain in a national park in Spain contaminated with PCBs, the Spanish frog (*R. perezii*) was found to almost 6-times more total PCBs than three different species of fish indigenous to the area (Hernandez et al., 1987). Biomagnification was only evident after examination of frog-eating and fish egg-eating birds were examined. Concentrations in these birds were between 5-to 15-times the levels found in the fish and frogs. Elevated PCB concentrations were also detected in various tissues of mudpuppies (*Necturus maculosus*) collected from the St. Lawrence and Ottawa Rivers of Ontario from 1988 to 1992

(Bonin et al., 1995). Whole body total PCB residues ranged from 0.1 to 1.1 mg/Kg with a mean value of 0.4 mg/Kg. Female gonads contained an average of 0.4 mg/Kg total PCB. The most commonly identified congeners included PCB 118, 153, and 138. These concentrations and congeners were similar to those found in snapping turtle (*Chelydra serpentina*) eggs collected from the same sites. Further study of mudpuppies in the St. Lawrence River by (Gendron et al., 1997) found more extensive levels of accumulation with tissue total PCB residues ranging from 0.4 to 58.3 mg/Kg total PCB. However, these investigators also reported that the tissue levels of the non-ortho coplanar PCBs, which are typically the most toxic (Eisler and Beslisle, 1996), were far lower in concentration and ranged from 0.001 to 0.26 mg/Kg.

Under more controlled laboratory conditions, Jung and Walker (1997) evaluated dioxin uptake and depuration in American toads (*Bufo americanus*), *R. pipiens*, and *R. clamitans* exposed to spiked water as eggs or larvae for 24-h. These investigators found that the jelly coat surrounding the egg coat contained only 1.2-3.7 % of the waterborne dioxin. Both frogs and toads accumulated dioxin in relation to the exposure level with BCFs for each species ranging from 0.6 to 4.0. Interestingly, *R. pipiens* larvae accumulated 2.5-times more dioxin in 24-h than *B. americanus*. Depuration rates were relatively fast from all three species with half-lives ranging from 1 to 7.3 days. The high rates of depuration in amphibians may account for total PCB during development in egg masses that had high tissue burdens, but were cultured in relatively uncontaminated sediment and water. However, depuration rates are highly dependent on the route of exposure, as appreciable faster rates of depuration have been measured in studies using dermal absorption than oral absorption via food. Since PCB exposure in the present study was primarily via sediment exposure, the BCFs calculated by Jung and Walker (1997) are not directly comparable to BCFs calculated from this study.

Some of the greater whole PCB tissue residues recorded in previous studies were 2.1 mg Aroclor 1260/Kg dry weight in adult *A. maculatum* (spotted salamander) (Johnson et al. 1999), and 1.6 and 1.7 mg/Kg Aroclor 1254:Aroclor 1260/Kg lipid weight in *R. pipiens* and *R. clamitans*, respectively (Gillan et al., 1998). Several investigators have found rather extensive accumulation of PCBs in various adult amphibian tissues including gonads, liver, and eggs (Fontenot et al., 2000). Up to this point, only a study by (Gutleb et al., 2000) documented the

accumulation of PCBs, in this case congener 126, in tadpoles. In this study the investigators reported stage 25 *R. temporaria* tadpoles containing approximately 5.4 mg PCB 126/Kg lipid weight. The greatest level of total PCB recorded in larvae and metamorphs in the present study were 10.4 and 15.0 mg/Kg in specimens collected from site 38-VP-1 and site 8-VP-1

A substantially more limited database exists on the toxicological effects of PCBs in amphibians, particularly in field studies. Birge et al. (1978) found that the 4-d LC50 value for Aroclor 1254 in *R. pipiens*, *B. americanus*, and Fowler's toads (*B. fowleri*) were 0.004, 0.10, and 0.04 mg/Kg. Sensitivity to Aroclor 1254 and 1016 increased with the age such that 4-d post-hatch larvae were markedly more sensitive than the immediate post-hatch larvae. These results are consistent with our findings that little developmental effect was manifested prior to hatching in specimens exposed to PCBs. Birge et al. (1978) further concluded the toxicity of the mixtures increased with increasing percent chlorination, which is consistent with other studies with PCBs (Eisler, 1987 and Eisler and Beslisle, 1996). The teratogenic effects of PCBs on amphibians includes skeletal defects, such as lordosis and scoliosis, and abdominal edema. These defects reported by Birge et al. (1978) are consistent with the abnormalities found in the present study, including notochord defects. Bishop et al. (1991 and 1998) found significant correlations between increasing malformation rates in snapping turtle embryos and PCB and PCDD/furans levels, however, the increased risk of abnormality was not significantly correlated with toxic equivalents (TEQs) in the eggs indicating that individual concentrations of PCB congeners may be more important in assessing toxicity to snapping turtle eggs than TEQs derived from rat, fish, and bird assays. Currently, no TEQs exist for amphibian species.

Aside from the previously mentioned studies, the propensity of PCBs to induce developmental effects in amphibian species is not completely understood. Most studies of PCB accumulation and effects have been performed in adults. No significant effects of PCB 126 exposure (0.05-50 µg/L) in *R. pipiens* and *R. clamitans* tadpoles on hatching success, early malformations, body weight, snout-vent length (SVL), or organ mass weight were found by Rosenshield et al. (1999). These investigators, however, did find a decrease in survival and swimming speed, and an increase in abdominal edema in later stage tadpoles. In the same study, an increasing proportion of metamorphosed specimens were found with increasing PCB concentration in both species

with the exception of the highest concentration, which was developmentally toxic. Joffre et al. (2000) found similar results including an increase in percent metamorphosis, but that the time to metamorphosis was unaffected. These results are also consistent with our findings in *R. sylvatica* in the present study. These investigators found increase incidence of edema in *R. clamitans* and *R. pipiens* exposed to 5×10^{-6} -0.05 mg/L PCB 126. Gutleb et al. (1999) found no increase in early embryo-larval malformations or detrimental effects on growth in *Xenopus laevis* exposed to 1.1 nM to 1.2 mM Aroclor 1254 for 4-d. However, these investigators did find that administration of Clophen A50 to females prior to breeding in *X. laevis* and *R. temporaria* altered retinoid signally processes in developing larvae. *X. laevis* larvae exposed for 80-d to 7.7 pM-6.4 μ M PCB 126 showed increasing numbers of malformations including those types mentioned previously. Gutleb et al. (2000) found that administration of mixtures of Clophen A50 and PCB 126 caused prominent tail (notochord), and eye malformations, in addition, to edema and depigmentation defects. The significance of the gut, mouth, and facial malformations observed in the present study may more significantly impact the local population of *R. sylvatica* than originally anticipated. Rowe et al. (in press) have found that these types of malformation have a serious impact on bioenergetics causing decreased fitness and potential effects at the local population level. These malformations decrease food consumption, reducing fitness. Finally, studies conducted by Reeder et al. (1998) found increased male:female sex ratios in cricket frogs found at sites with high PCB and PCDF concentrations. The primary effects documented in adult specimens, including recently metamorphosed animals included necrosis of the kidney, discoloration and necrosis of the liver (Huang et al., 1998).

Two recent studies, conducted by Kadokami et al. (2002) and Savage et al. (2002), further describe the potential effects of PCBs, as well as PCDDs and PCDFs, on amphibian development. The first study attempted to link the exposure to and accumulation of co-planar PCBs, PCDDs, and PCDFs on the occurrence of limb deformities in *R. ornativentris* (mountain brown frog) and *R. japonica* (Japanese brown frog) at a contaminated site relative to two selected reference sites. The incidence of forelimb malformation, characterized as polydactyly, in the effected site was ca. 1.0-2.0%, whereas the baseline effect was estimated to be approximately 0.1%. Since the whole body tissue concentrations of the contaminants of concern were similar between normal specimens collected at the target site and the reference site, the investigators

concluded that this specific limb malformation was not the result of exposure to these contaminants. The total co-planar PCB levels recorded in the adult whole bodies of target sites and reference specimens (n=15 for target sites and n=2 for the reference site) ranged from 134.0 to 618.0 µg/Kg. No investigation of other potential causes of limb malformation, including parasites, was discussed. Further, the investigators only evaluated normal adult specimens and did not evaluate abnormal specimens of varying ages to evaluate potential differences with the normal specimens, limiting their ability to establish the conclusions drawn. In the present study and the “2000 *Rana pipiens* Reproduction and Development Study”, the incidence of limb defects was much less than the characteristic facial, mouth, and tail malformations. In the study by Savage et al. (2002), the effect of PCB-contaminated sediment, from Franklin County, New York, on developing *R. sylvatica* was evaluated. Healthy *R. sylvatica* tadpoles from an external site were exposed to either 20 or 40 g of sediment, originally containing ca. 326.0 mg/Kg total PCBs, for 12 d with mortality and behavioral effects (activity and swimming speed) monitored. Further, two different exposure scenarios either allowed the tadpoles to come in direct contact with the sediment or not have direct contact with the sediment. In either case, the specimens exposed to 40 g of sediment accumulated approximately 128.0 and 33.0 mg/Kg total PCBs in the sediment contact and non-contact treatments, respectively. Likewise, tadpoles exposed to the 20 g sediment treatment (sediment contact/non-contact) accumulated total PCB levels of 22.0 and 6.0 mg/Kg. Regardless of amount of sediment used, significant larval mortality was observed. However, greater mortality was noted in the specimens exposed directly to the sediment than in those in the non-contact treatment. These investigators also found that swimming behavior and activity were, likewise, affected by these treatments as well. However, a greater effect on activity was noted in the non-direct sediment contact treatments. These results were also similar to those found in the present study, as well as the “2000 *R. pipiens* Reproduction and Development Study”.

Results from the previous studies described in the preceding paragraphs were reasonably similar to the results obtained in the present study. These previous studies point out that PCBs were capable of inducing abnormal development, alterations in metamorphic patterns and sexual development, and organ system pathology. The malformations observed in previous studies were similar to those observed in the present study. Although the gonads have been a primary

focus for bioaccumulation of PCBs, little previous work has been performed to understand abnormalities in gonadal development in relation to PCB exposure. In addition, an increase in the percent of specimens that metamorphose and pigmentation problems associated with improper development of the skin was also observed in the present study. Although Reeder et al. (1998) found that sex ratios in cricket frogs potentially exposed to PCBs and PCDF were skewed toward the male sex, our finding of skewed ratios toward the female sex is generally comparable, and is probably explained by different cytogenetic traits of the different species, physical variables, as well as, differing combinations of multiple chemical and non-chemical stressors. Feminization of amphibian gonads has been observed with several estrogenic and anti-androgenically active contaminants (Klaus et al., 1999; Fort, personal communication). The important outcome is the capacity of PCBs to alter sexual development resulting in skewed sex ratios, which was consistent in both species. Overall, the results from the present study were more dramatic than those reported previously. However, based on sediment PCB levels and tissue residues, the lower Housatonic River study area was appreciably more contaminated than the sites studied in the other reports discussed.

Huang and Karasov (2000) made an astute observation in their studies of liver pathology in *R. pipiens* exposed to radio labeled PCB 126. These investigators suggested that liver pathology was not necessarily related to the dose administered, but was better correlated with the length of exposure in adult specimens. If this hypothesis is true, which our data would seem to corroborate particularly in the metamorph specimens, the bioaccumulation potential of PCB in amphibians determines the ultimate adverse outcome of exposure. However, it should be noted that relationships between time of exposure, tissue accumulation, and effects induced were not necessarily significant in the induction of early embryo-larval malformations. As was found in this study, the relationship between early embryo-larval malformations and egg mass total PCB residues was usually not strong. This trend also appeared to be true in *R. pipiens* (Fort Environmental Laboratories, 2002). The exposure to the developmentally toxic material at critical time periods, or windows, during development was generally a more important factor. In this case, if exposure occurred at the appropriate concentration at a critical time of development, an abnormality may have been induced. The relationships between PCB levels in sediment and tissue and larval malformation or metamorph abnormality became increasingly stronger with

increasing age of the specimens. Because this dichotomy between short-term embryological and longer-term developmental and pathological effects exists, determination of toxic thresholds and adequate protection levels is extremely difficult. The extent of contamination in the Lower Housatonic River study area compounds this difficulty.

Results from the present study, as well as, most studies conducted to date have focused primarily on effects at either the individual level or the local population level. In fact, few studies, if any, adequately both field and laboratory components, nor provide extrapolation of laboratory-based individual data to field-based local population effects (Fort and McLaughlin, in press). The impact of organochlorine contamination (primarily PCBs) on amphibian populations in Southwestern Michigan was recently evaluated by Glennemeier and Begnoche (2002). Although these investigators found toxicological effects of PCB contaminated sediment in developing *R. pipiens* and *R. utricularia* larvae, no apparent effects were observed at the population level. Population surveys were based on three separate calling surveys conducted over an unknown portion of one year (1997) and limited time-constrained visual encounter surveys during and unknown portion of 1998. These investigators found that ranid adults and larvae collected from the field sites contained total PCB levels lower than that found in the sediments. The maximum total sediment PCB levels in the sediment in the Glennemeier and Begnoche (2002) study was 39 mg/Kg total PCBs. Glennemeier and Begnoche (2002) hypothesized that the apparent lack of population-level effects of PCBs in the field could be explained by limited contaminant accumulation rather than low physiological sensitivity to chronic PCB exposure. This work adds to a growing controversy over the actual sensitivity of amphibian populations to organochlorine contaminants. Glennemeier and Begnoche (2002) studies support studies by Fontenot et al. (1996) and Harris et al. (1998a and 1998b) that have suggested that amphibian populations are less negatively affected than other taxa by organochlorine contaminants.

The adequacy of the population surveys from the Glennemeier and Begnoche (2002) is difficult to determine due to both the limited nature of the surveys and the lack of adequate population modeling. It is likely that without modeling over a five to ten year period, negative population effects would not necessarily be observed. In addition, the suggestion that bioaccumulation is directly relative to biological effects and that population level effects will not be observed in taxa

that do not extensively bioaccumulate PCBs is not necessarily founded as biotic and abiotic exposure during critical phases of the lifecycle are more likely to be significant factor. In addition, accumulation of contaminants, including the COPCs considered in the present study, in amphibians should not necessarily be assessed based on whole body analysis, since critical tissues, such as the ovary and liver, tend to accumulate substantially more PCBs than the remainder of the body. The “*R. pipiens* Reproduction and Development” study strongly suggested that the reproductive organs in female *R. pipiens* were not only a toxicological target, but also a site for extensive bioaccumulation relative to the whole body. Finally, if Huang and Karasov (2000) are correct in their assertion of the importance of the temporal variable in mediating the toxicological effects of PCBs in anurans, the length of exposure during critical periods of the lifecycle may be more important than the actual exposure concentration or extent of accumulation.

It is possible that more significant remediation standards for these COPCs in the environment will be required to protect amphibians in the affected area from accumulation and potential longer-term effects than shorter-term early developmental effects. Both outcomes must be considered to adequately protect amphibians from the adverse effects of PCBs in the environment. However, future studies are needed to directly compare the individual and local population level sensitivities to laboratory and field exposure to PCBs.

CONCLUSIONS

Results from the present study clearly demonstrated the negative impact of the COPCs identified in this study, but most notably PCBs, on *R. sylvatica* development and maturation in the Lower Housatonic River watershed. Further, elevated PCB residues were found in various wood frog tissues evaluated throughout this study. Although the other COPCs measured, including Appendix IX pesticides and metals, dioxins and furans, and PAHs were detected in several of the *R. sylvatica* tissue samples analyzed, accumulation was markedly less than found with PCBs. The extent of bioaccumulation was determined by both geographical and temporal factors. Thus, both the location of developing egg masses, tadpoles, and metamorphs; and duration of environmental exposure appeared to determine the extent of PCB accumulation in the tissue. Reasonably strong relationships were established between the incidence of embryo-larval malformation, abnormalities in metamorph specimens, and sexual (gonadal development) development; and the levels of PCBs in both sediment and respective tissues. Sediment total PCB levels correlated better than tissue residues with the incidence of larval malformation, whereas, tissue residues correlated better than sediment total PCB concentrations with abnormalities and skews in sex ratios in metamorph specimens. Results obtained from laboratory cultured specimens (Phase I) reasonably corroborated results obtained with field-collected specimens (Phases II and III). Further, crossover exposure study results suggested that malformation induced in larval specimens were the result of a combination of maternal transfer and environmental exposure to PCBs and other COPCs, although the environmental exposure route appeared to be more significant during advanced larval development and metamorphosis. Although complex non-interactive and interactive relationships between the chemical stressors identified or the influence of other non-chemical stressors must be considered, results from the present study indicated that the most significant factor in the toxicological effects observed was exposure and accumulation of PCBs and other COPCs during development and maturation. Overall, this study identified one of the more striking ecotoxicological impacts on a local amphibian species conducted to date.

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Table 1
Housatonic River Project
Vernal Pools Selected for Larval *Rana sylvatica*
Growth and Development Study¹

Woodlot Pool Designation	Estimated Area (m²)	Mean Depth (cm)	tPCB Concentration Water² (mg/L x 10⁻⁴)	tPCB Concentration Sediment² (mg/Kg)
8-VP-1	74	28	3.25	14.50
18-VP-2	976	46	0.81	6.05
23B-VP-1	558	46	0.13	0.19
23B-VP-2	1394	30	0.14	0.11
38-VP-1	316	36	0.55	28.00
38-VP-2	558	25	4.65	62.00
39-VP-1 ³	2789	63	0.96	52.00
46-VP-1	2212	>91	0.18	0.50
46-VP-5	74	30	0.26	2.20
WML-1	ND	ND	0.20	0.007 (U ⁴)
WML-2	ND	ND	0.13	0.013 (U ⁴)
WML-3	ND	ND	0.13	0.011 (U ⁴)

¹ Pools surveyed for herpetiles include vernal pools, as defined by the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) and other water bodies that contained or could contain breeding amphibians.

²tPCB concentrations used in this study were derived from averaging results from two sample events in April and May 2000.

³No specimens were found at vernal pool 39-VP-1.

⁴Non-detect (Qualifier "U").

ND=Not determined.

Table 2
Housatonic River Project
Rana sylvatica Vernal Pool Study 2000
Summary of Biological and Physical Samples Per Pool

Sample Type	Sample Description	Estimated Number of Collection Events per Pool	QA/QC Sample Collection ¹	Replicates/ Specimen per Collection	Sites/ Study	Total Specimen/ Samples Collected/ Pool	Total Specimen/ Samples Collected
Biological	Egg mass (sets)	1	1	5	11	6	66
Biological	Larvae	4	1	50	11	250	2,750
Biological	Metamorphs	1	1	50	11	100	1,100
Physical	Water ²	1 ³	1	1	11	1	11
Physical	Sediment ²	1 ³	1	1	11	1	11

¹ One additional sample set was collected during the study for QA/QC.

² Also used for bioassay studies. Water chemistry includes DO, pH, hardness, alkalinity, conductivity, ammonia-nitrogen, and nitrate/nitrite-nitrogen.

³ Consisted of a composite prepared from grab samples collected from each pool.

Table 3
Housatonic River Project
Rana sylvatica Vernal Pool Study 2000
Physical Water Chemistry
(Mean Values)

Sample ID	pH (su)	DO (mg/L)	Hardness (mg/L)	Conduct. (µmho/cm)	Alkalinity (mg/L)	NH3-N (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Phosphate-P (mg/L)	Sulfate (mg/L)	Lithium (mg/L)	Sodium (mg/L)	Ammonium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)
8-VP-1	7.2	> 6.0	60.3	132.3	57.0	0.45	< 0.020	4.958	< 0.030	0.041	< 0.004	< 0.010	3.442	0.002	4.139	0.312	2.395	5.024	12.03
18-VP-2	7.3	> 6.0	103.8	460.3	76.0	0.09	0.029	80.578	0.130	0.041	1.400	0.028	4.348	0.002	54.122	0.198	1.576	9.051	23.16
23b-VP-1	7.6	> 6.0	156.8	300.9	159.8	< 0.05	< 0.020	2.619	< 0.030	0.038	< 0.004	0.022	2.265	< 0.002	3.017	0.109	1.728	12.721	41.05
23b-VP-2	7.4	> 6.0	111.3	223.1	100.8	0.06	< 0.020	2.520	0.045	0.032	< 0.004	< 0.010	2.011	< 0.002	2.886	0.125	2.176	8.429	26.26
38-VP-1	7.1	> 6.0	60.0	153.4	59.7	0.19	< 0.020	10.741	0.035	0.063	< 0.004	0.037	4.326	0.002	7.685	1.188	1.563	5.003	14.65
38-VP-2	7.2	> 6.0	73.0	168.6	66.5	0.10	0.020	9.024	0.038	0.052	< 0.004	< 0.010	3.846	0.002	7.424	0.145	1.061	6.354	16.20
39-VP-1	8.0	> 6.0	106.0	258.0	92.0	< 0.05	< 0.010	20.200	< 0.030	0.035	< 0.004	< 0.010	8.980	< 0.004	13.900	< 0.250	0.878	10.4	27.70
46-VP-1	5.6	> 6.0	19.0	23.5	6.8	0.07	< 0.020	0.828	< 0.030	0.013	< 0.004	< 0.010	2.254	< 0.002	0.789	0.090	0.408	0.689	1.91
46-VP-5	7.2	> 6.0	66.8	144.8	58.3	0.11	0.117	7.519	< 0.030	0.043	< 0.004	< 0.010	3.941	0.002	4.506	0.105	0.657	5.799	14.55
WML-1	6.8	> 6.0	39.7	82.0	37.4	< 0.05	< 0.020	0.596	0.039	0.015	< 0.004	< 0.010	2.703	< 0.002	1.084	0.098	1.232	3.501	9.30
WML-2	7.0	> 6.0	65.3	136.0	57.3	< 0.05	0.020	0.741	< 0.030	0.012	< 0.004	< 0.010	5.447	< 0.002	1.253	< 0.050	1.673	3.943	19.30
WML-3	6.4	> 6.0	16.0	41.3	54.9	< 0.05	< 0.020	0.827	0.090	0.023	< 0.004	< 0.010	6.719	< 0.002	1.221	< 0.050	0.766	0.843	3.75

Table 4
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Organic and Metals Data Summary (COPCs)

Sample Location Weston (Woodlot)	Field Sample ID	Date Collected	APP IX Pesticides Total (µg/Kg)	Dioxins/ Furans Total (ng/Kg)	PAHS Total (µg/Kg)	PCB Total (mg/Lx10 ⁻⁴)	PCB Total (mg/Kg)	Cadmium (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)	Nickel (mg/Kg)
8-VP-1	H2-SW000040-0-0A05	04/05/2000									
8-VP-1	H2-SW000040-0-0A11	04/11/2000				4.40					
8-VP-1 ¹	Mean of Previous 2 Samples					2.10					
8-VP-1	H2-SE001255-0-0000	04/05/2000				3.25	12.00				
8-VP-1	H2-SE001273-0-0000	05/17/2000					17.00				
8-VP-1 ¹	Mean of Previous 2 Samples						14.50				
8-VP-1	H2-TA02RS20-0-EM08	04/07/2000	NA	NA	NA			NA	NA	NA	NA
8-VP-1	H2-TA02RS20-0-MM08	06/06/2000	NA	NA	NA			NA	NA	NA	NA
8-VP-1	H2-TA02RS20-0-TP08-EV1	04/20/2000	NA	NA	NA			NA	NA	NA	NA
8-VP-1	H2-TA02RS20-0-TP10-EV3	06/02/2000	NA	NA	NA			NA	NA	NA	NA
8-VP-1	H2-TA02RS20-0-C001	07/07/2000	663.15	63.00	319.80		15.00	0.05	1.85	0.15	1.94 U
18-VP-2	H3-SW000038-0-0A04	04/04/2000				1.10					
18-VP-2	H3-SW000038-0-0A13	04/13/2000				0.51					
18-VP-2 ¹	Mean of Previous 2 Samples					0.81					
18-VP-2	H3-SE001254-0-0000	04/04/2000					5.20				
18-VP-2	H3-SE001275-0-0000	05/18/2000					6.90				
18-VP-2 ¹	Mean of Previous 2 Samples						6.05				
18-VP-2	H3-TA04RS27-0-EM03	04/08/2000	NA	NA	NA			NA	NA	NA	NA
18-VP-2	H3-TA04RS27-0-MM05	07/19/2000	NA	NA	NA			NA	NA	NA	NA
18-VP-2	H3-TA04RS27-0-TP01-EV1	04/24/2000	NA	NA	NA			NA	NA	NA	NA
18-VP-2	H3-TA04RS27-0-TP03-EV3	05/31/2000	NA	NA	NA			NA	NA	NA	NA
18-VP-2	H3-TA04RS27-0-C001	07/06/2000	205.52	12.80	780.60		2.93	0.08	0.98	0.25	1.2 U
23B-VP-1	H3-SW000041-0-0A05	04/05/2000				0.13					
23B-VP-1	H3-SW000041-0-0A12	04/12/2000				0.13					
23B-VP-1 ¹	Mean of Previous 2 Samples					0.13					
23B-VP-1	H3-SE001258-0-0000	04/05/2000					0.12				
23B-VP-1	H3-SE001274-0-0000	05/18/2000					0.25				
23B-VP-1 ¹	Mean of Previous 2 Samples						0.19				
23B-VP-1	H3-TA05RS28-0-EM03	04/07/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-1	H3-TA05RS28-0-MM04	06/05/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-1	H3-TA05RS28-0-TP01-EV1	04/20/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-1	H3-TA05RS28-0-TP03-EV3	06/01/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-1	H3-TA05RS28-0-C001	06/30/2000	NA	NA	NA		0.30	NA	NA	NA	NA

Table 4
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Organic and Metals Data Summary (COPCs)

Sample Location Weston (Woodlot)	Field Sample ID	Date Collected	APP IX Pesticides Total (µg/Kg)	Dioxins/ Furans Total (ng/Kg)	PAHS Total (µg/Kg)	PCB Total (mg/Lx10 ⁻⁴)	PCB Total (mg/Kg)	Cadmium (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)	Nickel (mg/Kg)
23B-VP-2	H3-SW000042-0-0A05	04/05/2000									
23B-VP-2	H3-SW000042-0-0A12	04/12/2000				0.14					
23B-VP-2 ¹	Mean of Previous 2 Samples					0.13					
23B-VP-2	H3-SE001256-0-0000	04/05/2000				0.14	0.12				
23B-VP-2	H3-SE001275-0-0000	05/18/2000					0.11				
23B-VP-2 ¹	Mean of Previous 2 Samples										
23B-VP-2	H3-TA05RS29-0-EM01	04/06/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-2	H3-TA05RS29-0-MM02	06/19/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-2	H3-TA05RS29-0-TP01-EV1	04/20/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-2	H3-TA05RS29-0-TP03-EV3	06/01/2000	NA	NA	NA			NA	NA	NA	NA
23B-VP-2	H3-TA05RS29-0-C001	07/06/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-SW000037-0-0A04	04/04/2000				0.96					
38-VP-1	H3-SW000037-0-0A11	04/11/2000				2.10					
38-VP-1 ¹	Mean of Previous 2 Samples					1.53					
38-VP-1	H3-SE001264-0-0000	04/04/2000					38.00				
38-VP-1	H3-SE001266-0-0000	04/27/2000					18.00				
38-VP-1 ¹	Mean of Previous 2 Samples						28.00				
38-VP-1	H3-TA08RS30-0-EM01	04/05/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-EM03	04/05/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-EM05	04/05/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	Mean of Previous 3 Samples						0.06				
38-VP-1	H3-TA08RS30-0-MM02	05/30/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-MM03	06/20/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-MM05	06/02/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	Mean of Previous 3 Samples						4.66				
38-VP-1	H3-TA08RS30-0-MC01	06/06/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-TP01-EV1	04/21/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-TP03-EV4	06/22/2000	NA	NA	NA			NA	NA	NA	NA
38-VP-1	H3-TA08RS30-0-C001	07/07/2000	24.70	21.20	57.70		1.61	0.32	1.04	0.65	0.51

Table 4
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Organic and Metals Data Summary (COPCs)

Sample Location Weston (Woodlot)	Field Sample ID	Date Collected	APP IX Pesticides Total (µg/Kg)	Dioxins/ Furans Total (ng/Kg)	PAHS Total (µg/Kg)	PCB Total (mg/Lx10 ⁻⁴)	PCB Total (mg/Kg)	Cadmium (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)	Nickel (mg/Kg)
38-VP-2	H3-SW000039-0-0A05	04/05/2000									
38-VP-2	H3-SW000039-0-0A11	4/11/2000				5.80					
38-VP-2 ¹	Mean of Previous 2 Samples					3.50					
38-VP-2	H3-SE001257-0-0000	04/05/2000				4.65	94.00				
38-VP-2	H3-SE001267-0-0000	5/2/2000					30.00				
38-VP-2 ¹	Mean of Previous 2 Samples						62.00				
38-VP-2	No EM samples analyzed. No sample available.										
38-VP-2	H3-TA08RS21-0-MM06	06/22/2000	NA	NA	NA		6.61	NA	NA	NA	NA
38-VP-2	H3-TA08RS21-0-MC01	06/06/2000	NA	NA	NA		0.05	NA	NA	NA	NA
38-VP-2	H3-TA08RS21-0-TP12-EV1	04/21/2000	NA	NA	NA		0.65	NA	NA	NA	NA
38-VP-2	H3-TA08RS21-0-TP14-EV3	06/01/2000	NA	NA	NA		3.41	NA	NA	NA	NA
38-VP-2	H3-TA08RS21-0-C001	07/07/2000	103.19	58.30	155.10		5.37	0.13	1.28	0.27	1.65
39-VP-2	H3-SW000044-0-0A06	04/06/2000				0.96					
39-VP-2	H3-SE001262-0-0000	04/06/2000					52.00				
46-VP-1	H3-SW000043-0-0A06	04/06/2000				0.13					
46-VP-1	H3-SW000043-0-0A13	04/13/2000				0.15					
46-VP-1	H3-SW000043-0-0Y01	05/01/2000				0.25					
46-VP-1 ¹	Mean of Previous 3 Samples					0.18					
46-VP-1	H3-SE001261-0-0000	04/06/2000					0.87				
46-VP-1	H3-SE001271-0-0000	05/16/2000					0.13				
46-VP-1 ¹	Mean of Previous 2 Samples						0.50				
46-VP-1	H3-TA08RS32-0-EM02	04/07/2000	NA	NA	NA		0.01	NA	NA	NA	NA
46-VP-1	H3-TA08RS32-0-MM04	06/08/2000	NA	NA	NA		0.06	NA	NA	NA	NA
46-VP-1	H3-TA08RS32-0-TP01-EV1	04/24/2000	NA	NA	NA		0.27	NA	NA	NA	NA
46-VP-1	H3-TA08RS32-0-TP05-EV3	06/02/2000	NA	NA	NA		0.12	NA	NA	NA	NA
46-VP-1	H3-TA08RS32-0-C001	07/06/2000	NA	NA	NA		0.13	NA	NA	NA	NA
46-VP-5	H3-SW000036-0-0A03	04/03/2000				0.38					
46-VP-5	H3-SW000036-0-0A12	04/12/2000				0.13					
46-VP-5 ¹	Mean of Previous 2 Samples					0.26					
46-VP-5	H3-SE001263-0-0000	04/03/2000					3.60				
46-VP-5	H3-SE001272-0-0000	5/17/2000					0.75				
46-VP-5 ¹	Mean of Previous 2 Samples						2.18				
46-VP-5	H3-TA08RS22-0-EM09	04/07/2000	NA	NA	NA		0.03	NA	NA	NA	NA
46-VP-5	H3-TA08RS22-0-MM10	06/12/2000	NA	NA	NA		0.07	NA	NA	NA	NA
46-VP-5	H3-TA10RS22-0-TP15-EV1	04/21/2000	NA	NA	NA		0.30	NA	NA	NA	NA
46-VP-5	H3-TA10RS22-0-TP18-EV3	06/02/2000	NA	NA	NA		0.41	NA	NA	NA	NA
46-VP-5	H3-TA10RS22-1-TP18-DUP	06/02/2000	NA	NA	NA		0.47	NA	NA	NA	NA
46-VP-5	Mean of Previous 2 Samples						0.44				
46-VP-5	H3-TA10RS22-0-C001	07/06/2000	NA	NA	NA		0.59	NA	NA	NA	NA
46-VP-5	H3-TA10RS22-1-C001-DUP	07/06/2000	NA	NA	NA		0.55	NA	NA	NA	NA
46-VP-5	Mean of Previous 2 Samples						0.57				

Table 4
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Organic and Metals Data Summary (COPCs)

Sample Location Weston (Woodlot)	Field Sample ID	Date Collected	APP IX Pesticides Total (µg/Kg)	Dioxins/ Furans Total (ng/Kg)	PAHS Total (µg/Kg)	PCB Total (mg/Lx10 ⁻⁴)	PCB Total (mg/Kg)	Cadmium (mg/Kg)	Lead (mg/Kg)	Mercury (mg/Kg)	Nickel (mg/Kg)
WML-1	H9-SW0000045-0-0A10	04/10/2000									
WML-1	H9-SW0000045-0-0Y01	05/01/2000				0.13					
WML-1 ¹	Mean of Previous 2 Samples					0.27					
WML-1	H9-SE001259-0-0000	04/10/2000				0.20	0.07 R				
WML-1	H9-SE001269-0-0000	05/02/2000					0.01				
WML-1	H9-TAW/LS41-0-EM04	04/11/2000		NA	NA		0.01	NA	NA	NA	NA
WML-1	H9-TAW/LS41-0-MM03	06/26/2000	NA	NA	NA		0.34	NA	NA	NA	NA
WML-1	H9-TAW/LS41-0-MC01	06/01/2000	NA	NA	NA		6.61	NA	NA	NA	NA
WML-1	H9-TAW/LS41-0-TP01-EV1	04/27/2000	NA	NA	NA		0.07	NA	NA	NA	NA
WML-1	H9-TAW/LS41-0-TP03-EV3	06/07/2000	NA	NA	NA		0.03	NA	NA	NA	NA
WML-1	H9-TAW/LS41-0-C001	07/08/2000	153.94	U	280.00		4.37	0.1	0.56	0.06	3.13 U
WML-2	H9-SW0000046-0-0A10	04/10/2000				0.13					
WML-2	H9-SE001260-0-0000	04/10/2000					0.10 R				
WML-2	H9-SE001268-0-0000	05/02/2000					0.01				
WML-2	H9-TAW/LS42-0-EM01	04/12/2000	NA	NA	NA		0.004	NA	NA	NA	NA
WML-2	H9-TAW/LS42-0-MM05	06/08/2000	NA	NA	NA		0.24	NA	NA	NA	NA
WML-2	H9-TAW/LS42-0-MC01	06/23/2000	NA	NA	NA		7.82	NA	NA	NA	NA
WML-2	No Phase II Tadpole Larvae Found										
WML-2	No Phase III Metamorphs Found										
WML-3	H9-SW0000047-0-0A10	04/10/2000				0.13					
WML-3	H9-SE001265-0-0000	04/10/2000					0.13 R				
WML-3	H9-SE001270-0-0000	05/02/2000					0.01				
WML-3	H9-TAW/LS43-0-EM04	04/12/2000	NA	NA	NA		0.01	NA	NA	NA	NA
WML-3	H9-TAW/LS43-0-MM03	06/22/2000	NA	NA	NA		0.14	NA	NA	NA	NA
WML-3	H9-TAW/LS43-0-MS01	06/19/2000	NA	NA	NA		0.53	NA	NA	NA	NA
WML-3	H9-TAW/LS43-0-TP01-EV1	05/09/2000	NA	NA	NA		0.02	NA	NA	NA	NA
WML-3	H9-TAW/LS43-0-TP03-EV3	06/14/2000	NA	NA	NA		0.04	NA	NA	NA	NA
WML-3	H9-TAW/LS43-0-C001	08/05/2000	NA	NA	NA		U	NA	NA	NA	NA

Notes:

¹ Mean of previous 2 sediment samples from PAC analysis.
Mean value used by EVS for data analysis.

Field Sample ID Symbols:

SW=Water (composited by site)
SE=Sediment (composited by site)
EM=Phase I Egg Mass Section from Developmental Study (grab from an individual egg mass)
MM=Phase I Metamorph from Developmental Study (composite of specimens generated from an individual egg mass)
MC=Phase I Metamorph from Crossover Study (composite of specimens generated from composited egg masses from an individual site)
MS=Phase I Metamorph from Spike Study (composite of specimens generated from composited egg masses from an individual site)
TP=Phase II Tadpole Larvae (composite of specimens generated from an individual egg mass)
EV(?)=Phase II Event (chronological number)
C001=Phase III Metamorph (composite from an individual site)

Result Symbols:

U=Undetected
NA=Not Analyzed
R=Rejected

Table 5
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Correlation Analysis

Correlation	Variables Compared	Sample Size	r*	p-value
1	Phase I Egg Mass Tissue tPCB And Sediment tPCBs	8	0.42	>0.05
2	Phase I Metamorph Tissue tPCB And Sediment tPCBs	8	0.52	>0.05
3	Phase I Egg Mass Weight And Sediment tPCBs	8	0.41	>0.05
4	Phase I Egg Mass Count And Sediment tPCBs	12	0.20	>0.05
5	Phase I Egg Mass Fertilization And Sediment tPCBs	8	0.07	>0.05
6	Phase I Egg Mass Necrosis And Sediment tPCBs	12	-0.33	>0.05
7	Phase I Egg Mass Hatching Success And Sediment tPCBs	12	0.20	>0.05
8	Mean Phase I Larval Malformation (Gosner stage 20-24) And Sediment tPCBs	8	0.86	<0.05
9	Phase I Egg Mass tPCBs And Mean Phase I Larval Malformation	10	0.50	>0.05
10	Phase I Larval Tissue tPCBs And Mean Phase I Larval Malformation	8	0.33	>0.05
11	Phase I Specimens Completing Metamorphosis And Phase I Metamorph Tissue PCBs	8	0.24	>0.05
12	Phase I Specimens Completing Metamorphosis And Sediment tPCBs	8	0.41	>0.05

Table 5
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Correlation Analysis (*continued*)

Correlation	Variables Compared	Sample Size	r*	p-value
13	Phase II, Event 1 Larval Tissue tPCBs And Sediment tPCBs	8	0.42	>0.05
14	Phase II, Event 3 Larval Tissue tPCBs And Sediment tPCBs	8	0.93	<0.005
15	Phase II, Event 1 Malformation And Sediment tPCBs	10	0.44	>0.05
16	Phase II, Event 1 Malformation And Phase II, Event 1 Tissue tPCBs	10	0.20	>0.05
17	Phase II, Event 2 Malformation And Sediment tPCBs	10	0.32	>0.05
18	Phase II, Event 3 Malformation And Sediment tPCBs	9	0.001	>0.05
19	Phase II, Event 3 Malformation And Phase II, Event 3 Larval Tissue tPCBs	10	-0.20	>0.05
20	Phase II, Event 4 Malformation And Sediment tPCBs	10	0.89	<0.002
21	Phase II Mean Malformation And Sediment tPCBs	9	0.83	0.005
22	Phase III Metamorph Tissue tPCBs And Sediment tPCBs	9	0.70	0.05
23	Phase III Sex Ratio (Feminization) And Phase III Tissue tPCBs	8	-0.91	0.005
24	Phase III Sex Ratio (Feminization) And Sediment tPCBs	8	-0.80	<0.05

Table 5
Housatonic River Project
***Rana sylvatica* Vernal Pool Study 2000**
Correlation Analysis (*continued*)

Correlation	Variables Compared	Sample Size	r*	p-value
25	Phase III Metamorph Abnormality (%) And Phase III Tissue tPCBs	8	0.81	<0.05
26	Phase III Metamorph Abnormality (%) And Sediment tPCBs	10	0.93	0.001
27	Phase III Metamorph Weight And Phase III Tissue tPCBs	8	0.57	>0.05
28	Phase III Metamorph Weight And Sediment tPCBs	8	0.20	>0.05

*Statistically significant relationships are shown in bold text.

FIGURE 1
HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
STUDY OVERVIEW

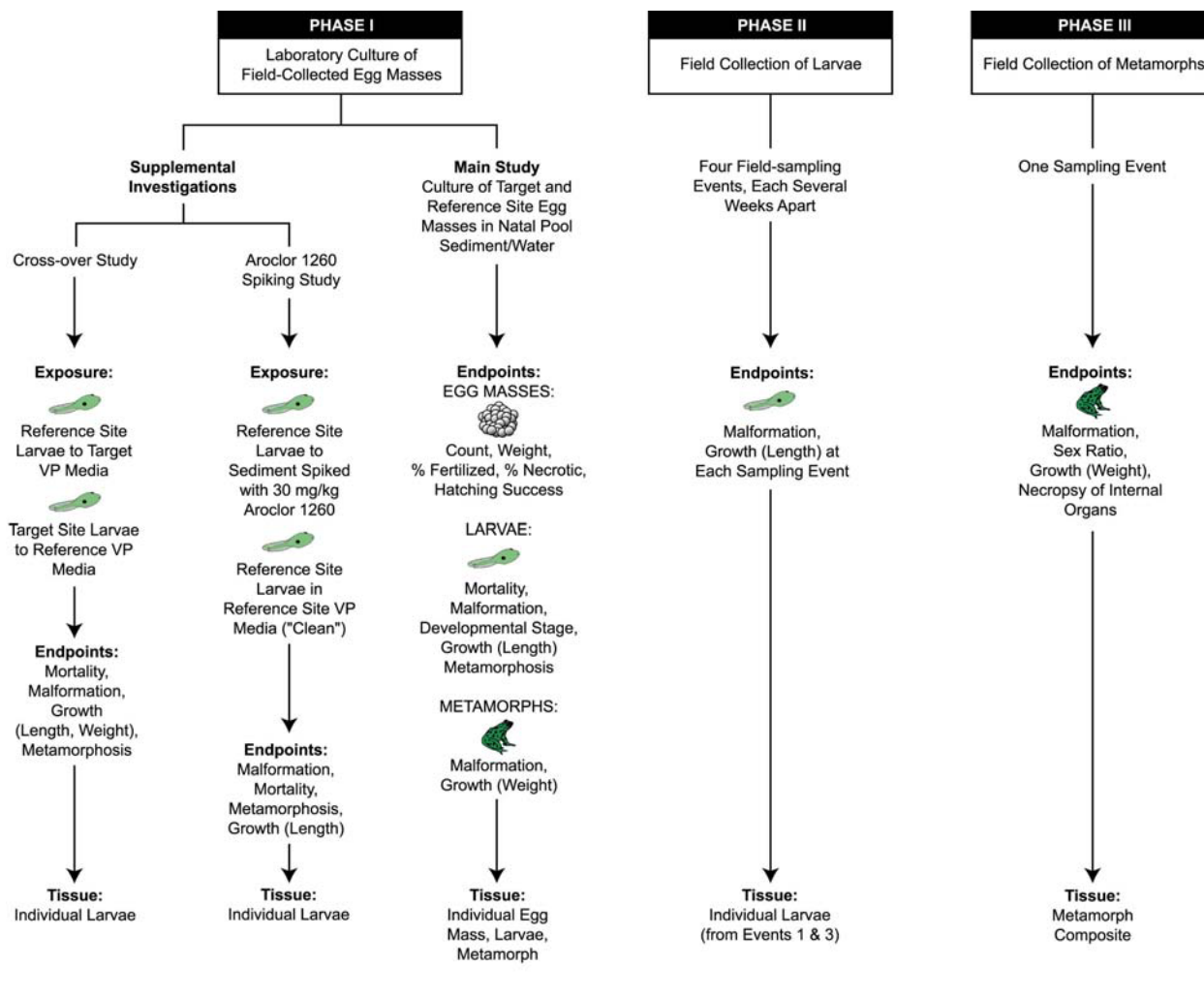
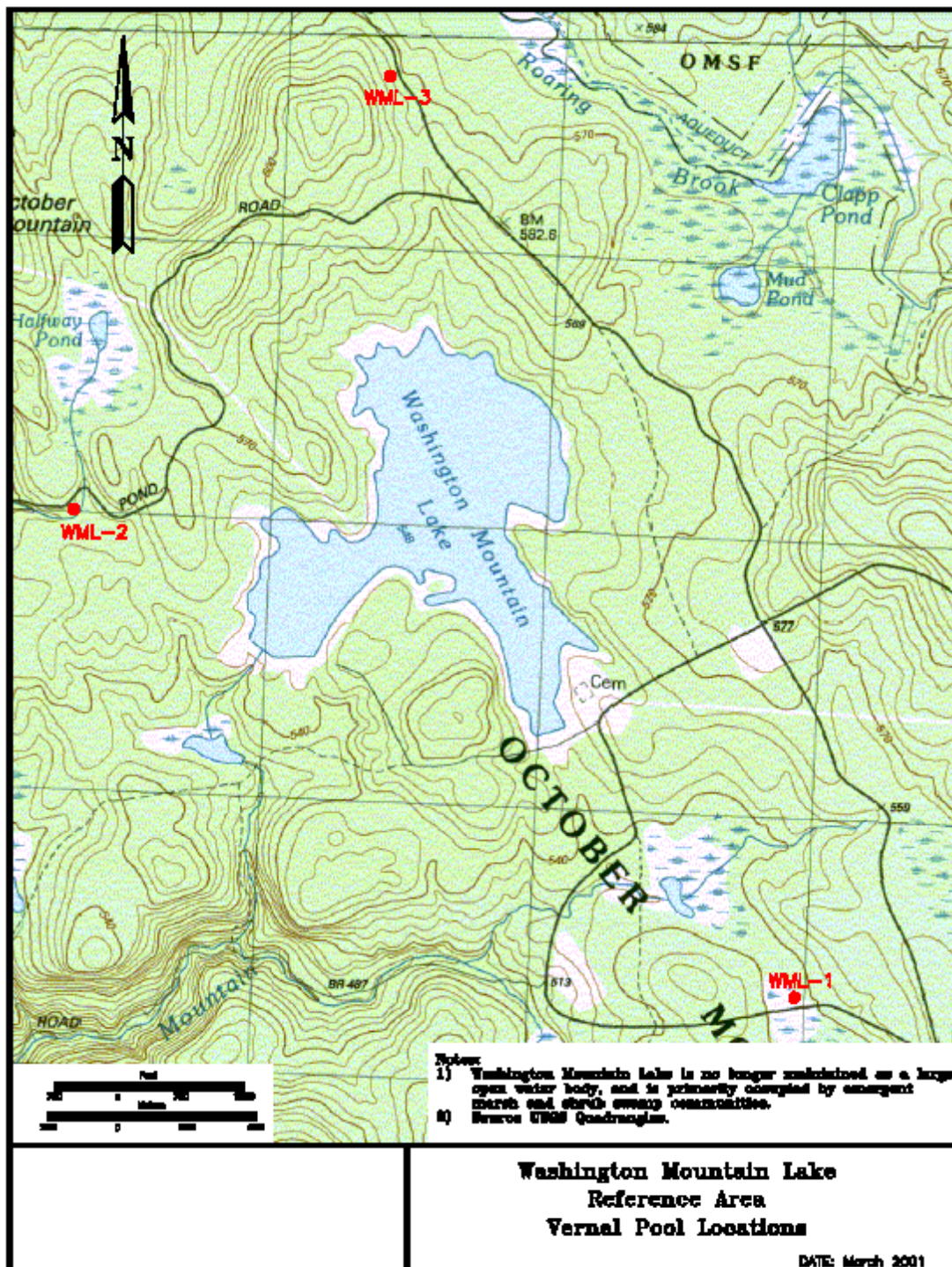


FIGURE 2
HOUSATONIC RIVER PROJECT
VERNAL POOL 2000
REFERENCE SITE LOCATIONS



**FIGURE 3
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TARGET SITE LOCATIONS**

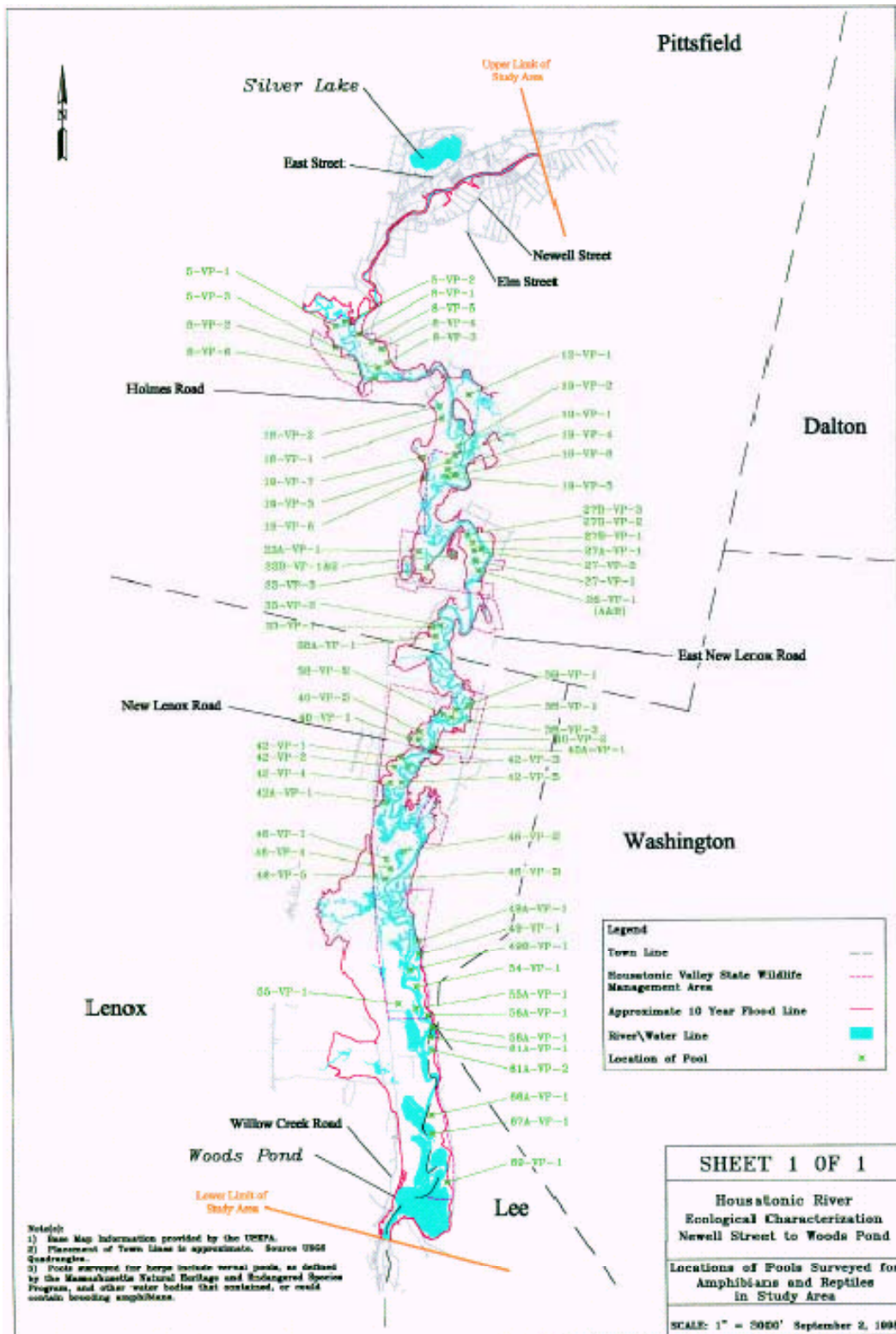


FIGURE 4
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I TOTAL PCB CONCENTRATIONS
SEDIMENT¹, EGG MASS SECTION^{2,3}, AND METAMORPH⁴ GRAB SAMPLES

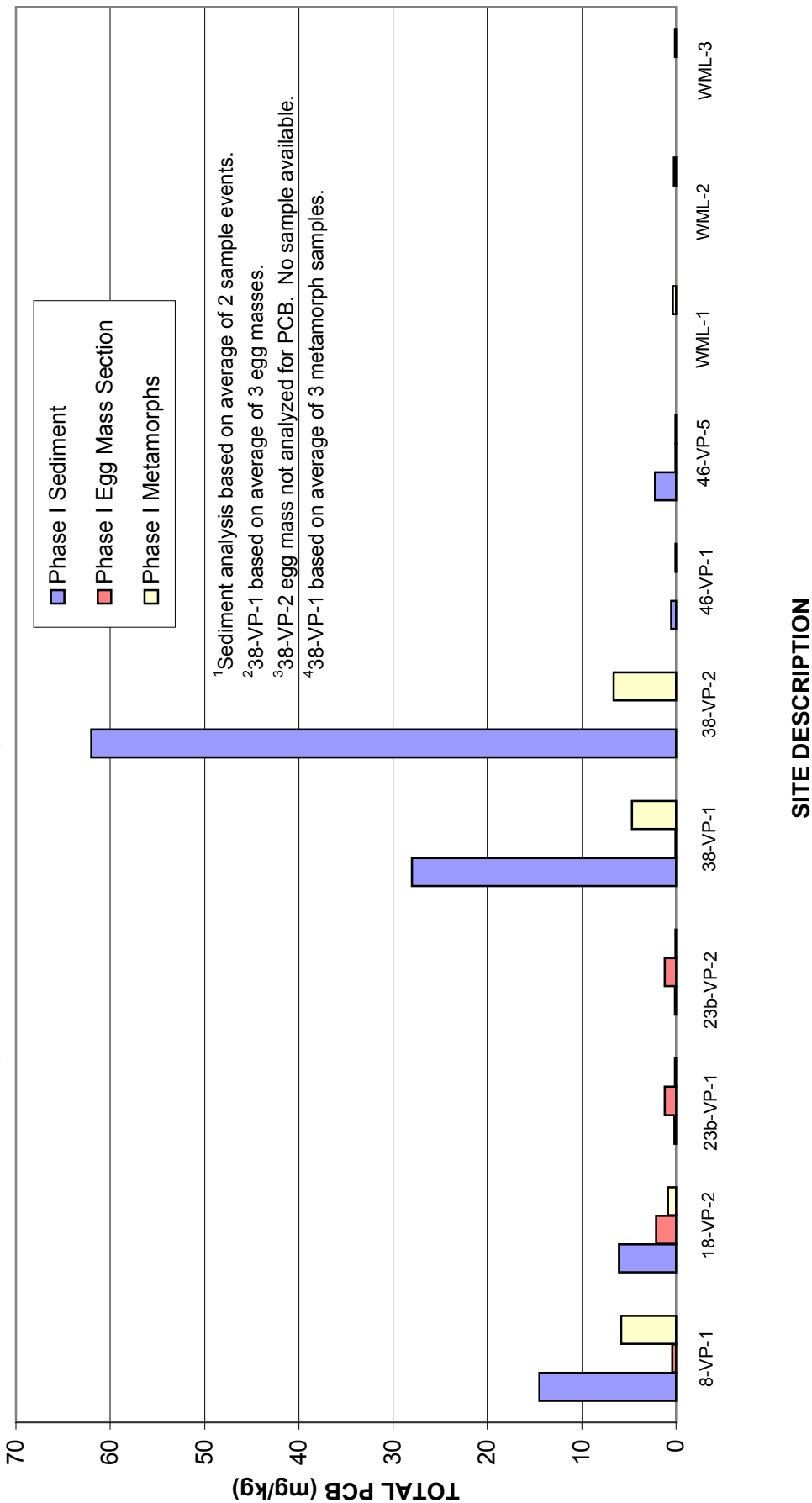
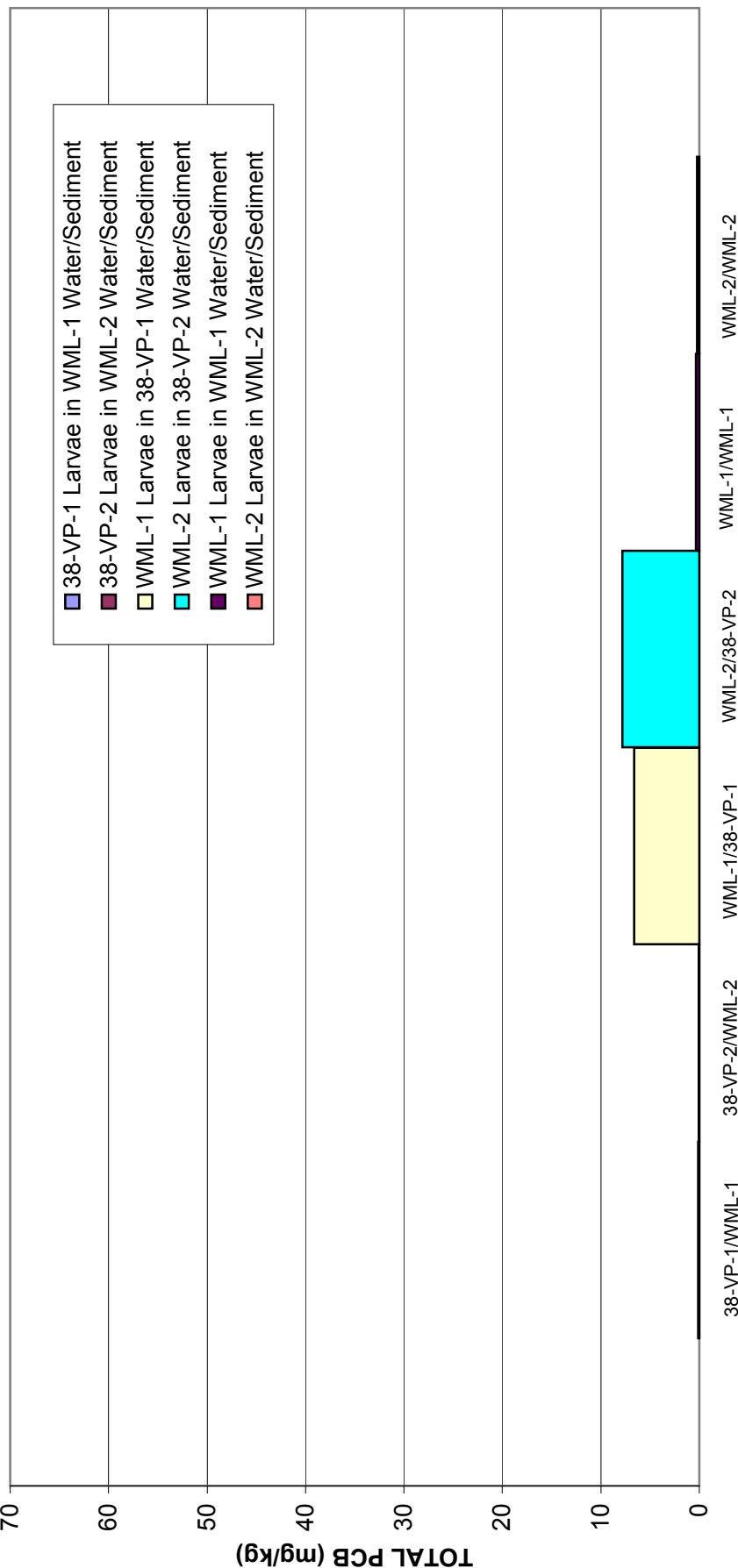
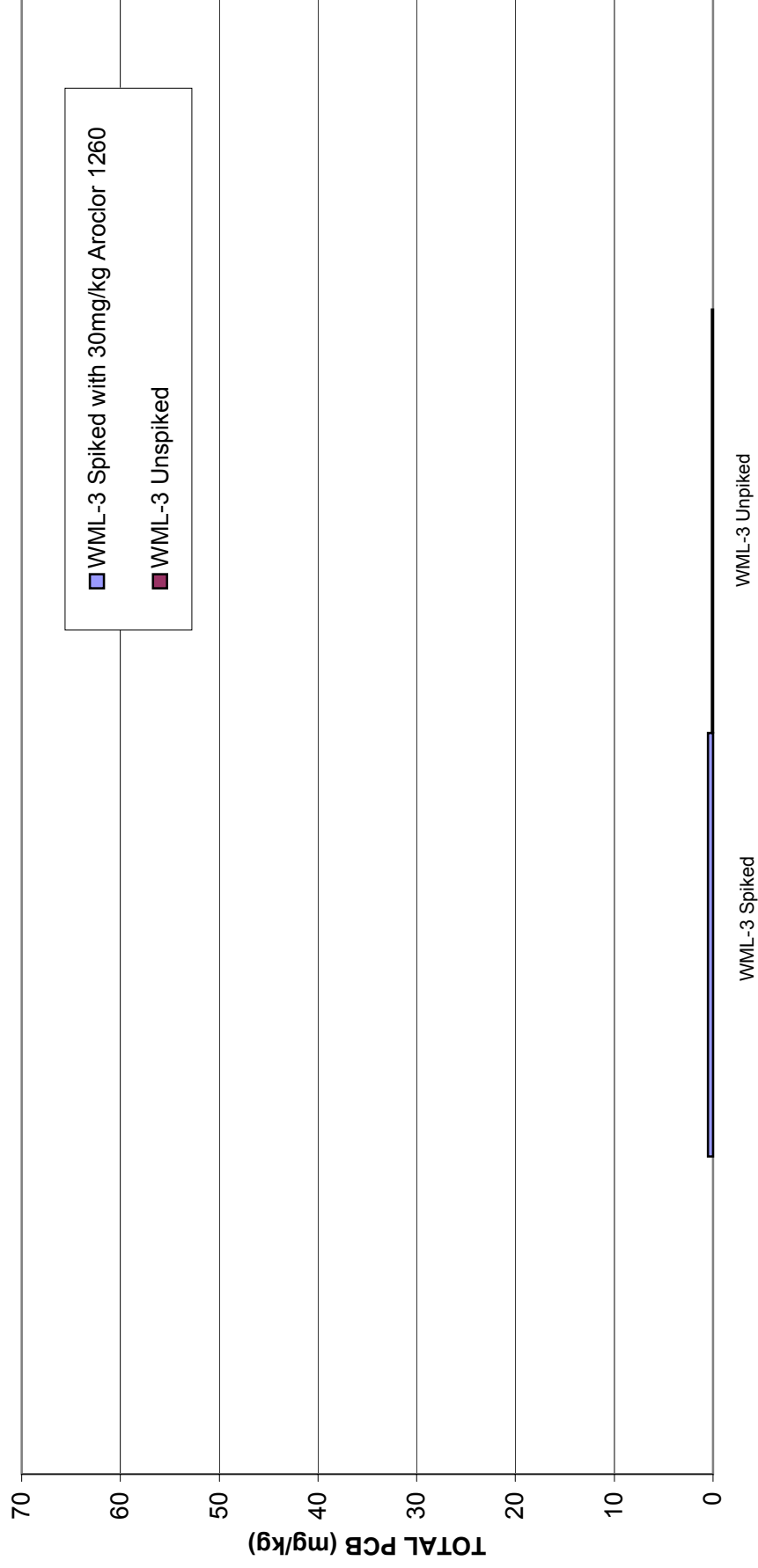


FIGURE 5
HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSEVER STUDY 2000
PHASE I TOTAL PCB CONCENTRATIONS
METAMORPH GRAB SAMPLES



SITE DESCRIPTION

FIGURE 6
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I TOTAL PCB CONCENTRATIONS
METAMORPH GRAB SAMPLES



SITE DESCRIPTION

FIGURE 7
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica*
MEAN OF TOTAL EGG MASS WEIGHTS BY SITE

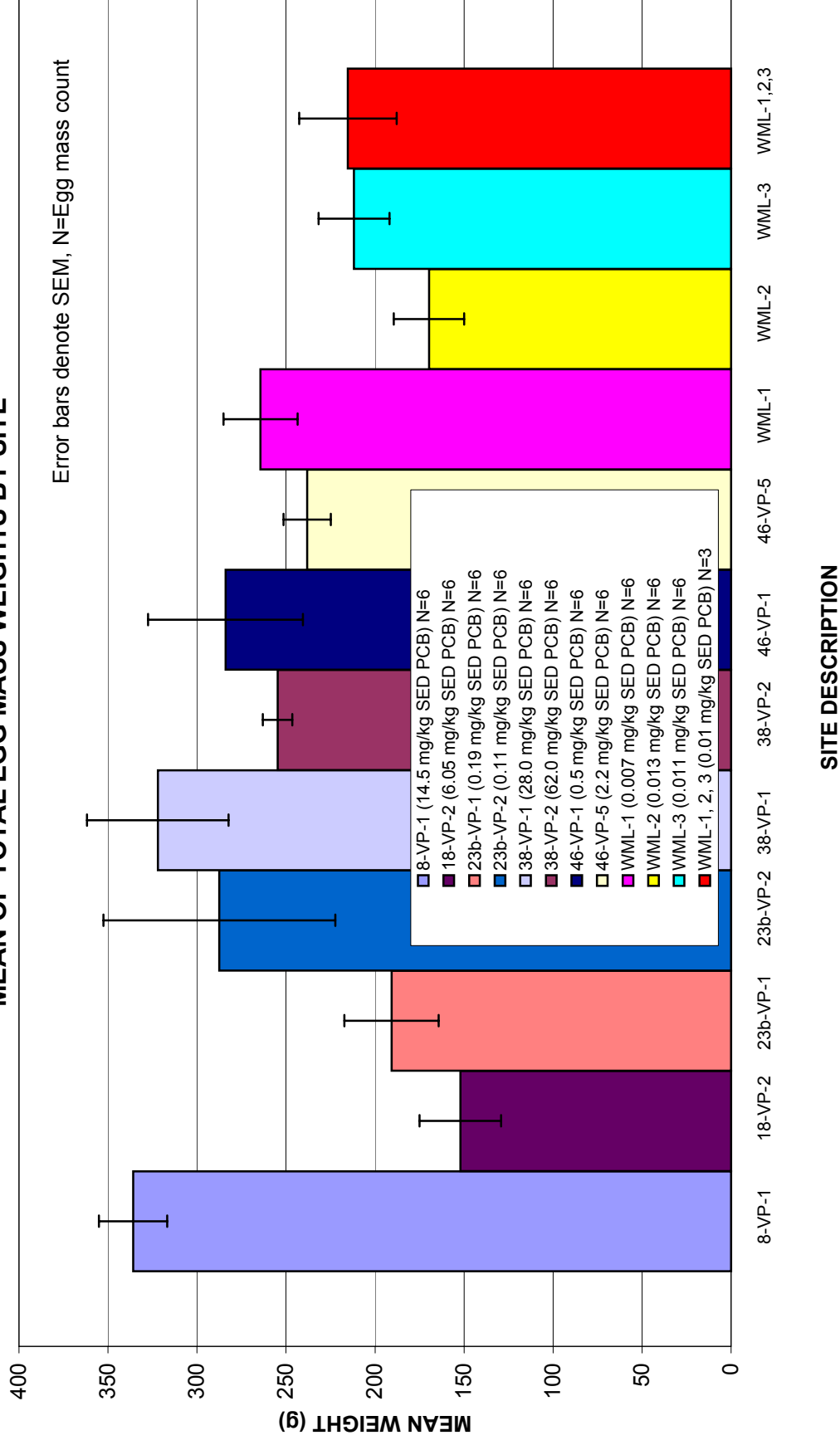


FIGURE 8
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* MEAN EGG COUNT PER SITE
(values extrapolated from 25% and 30% subsamples to represent 100% of egg mass)

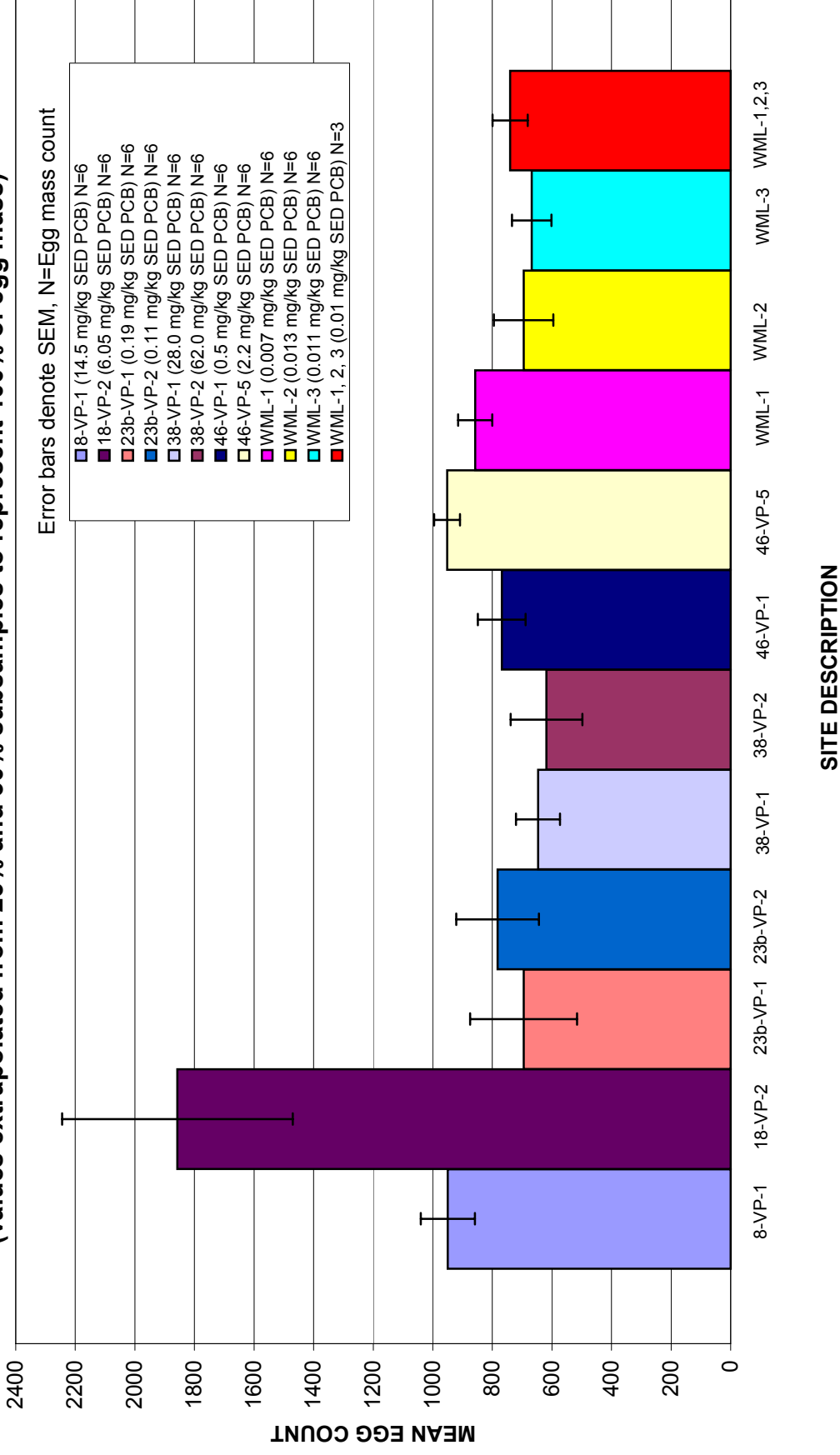
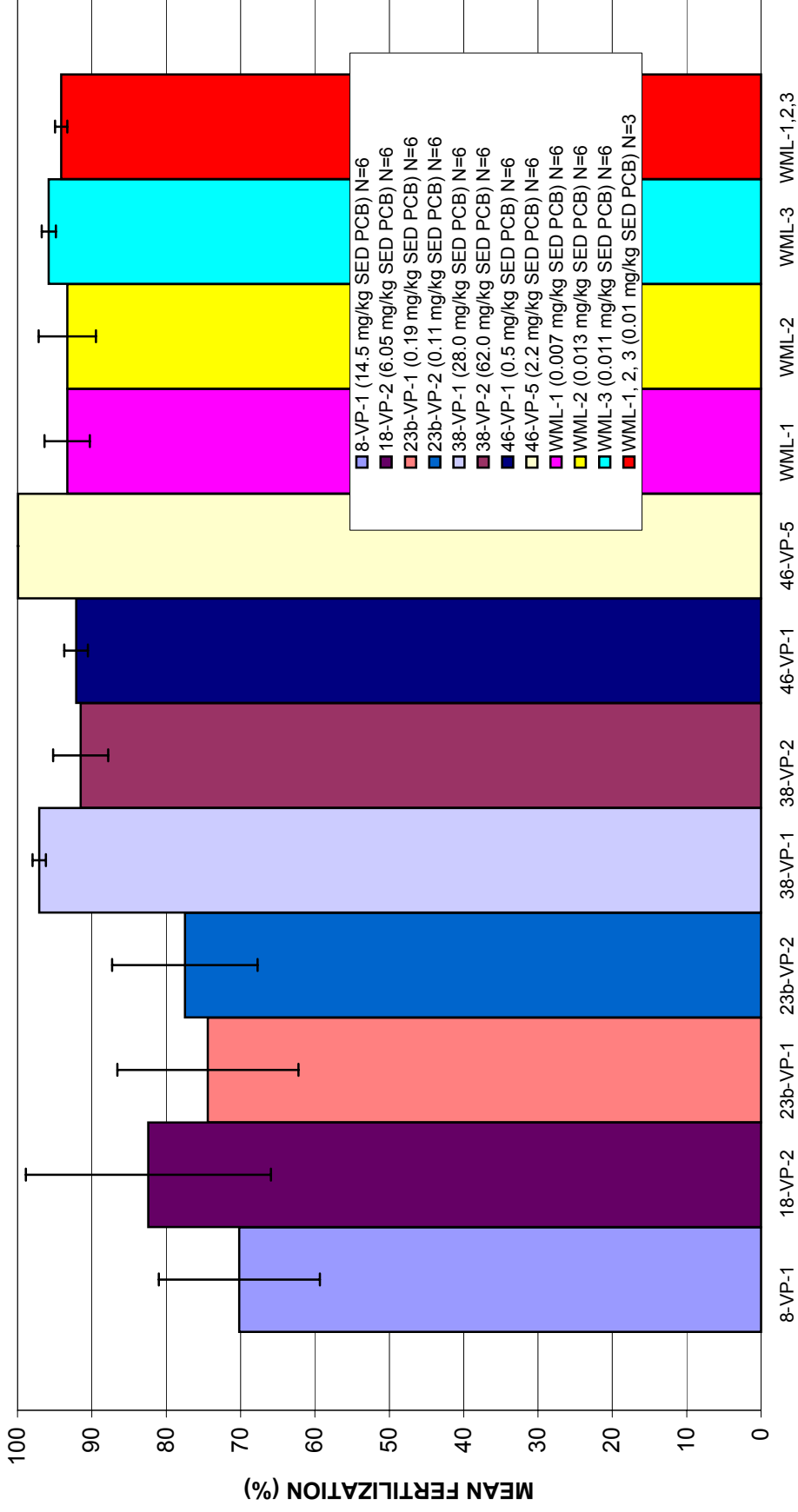


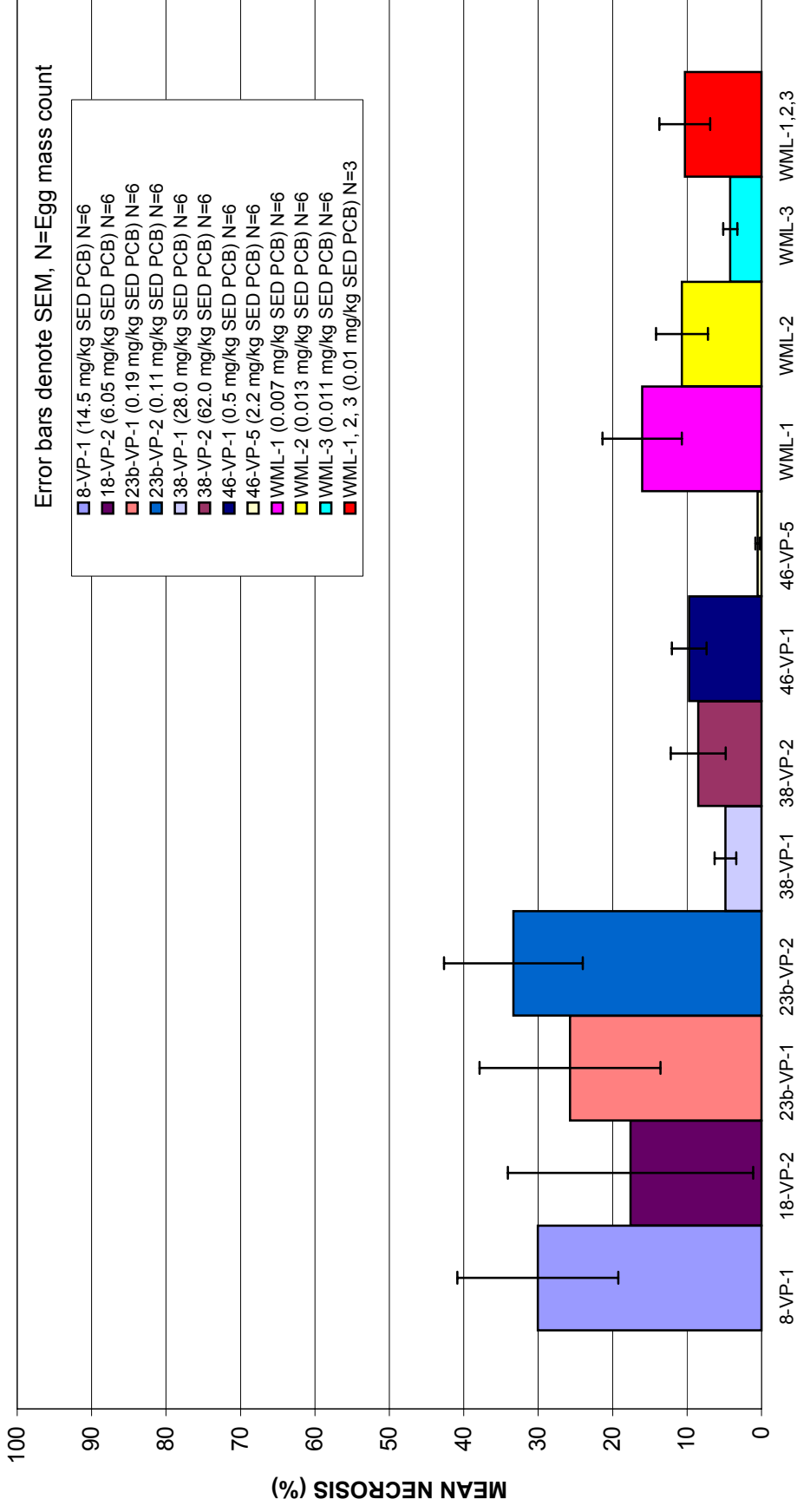
FIGURE 9
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* EGG MASS FERTILIZATION DATA
(values extrapolated from 25% and 30% subsamples to represent 100% of egg mass)



Error bars denote SEM; N=Egg mass count

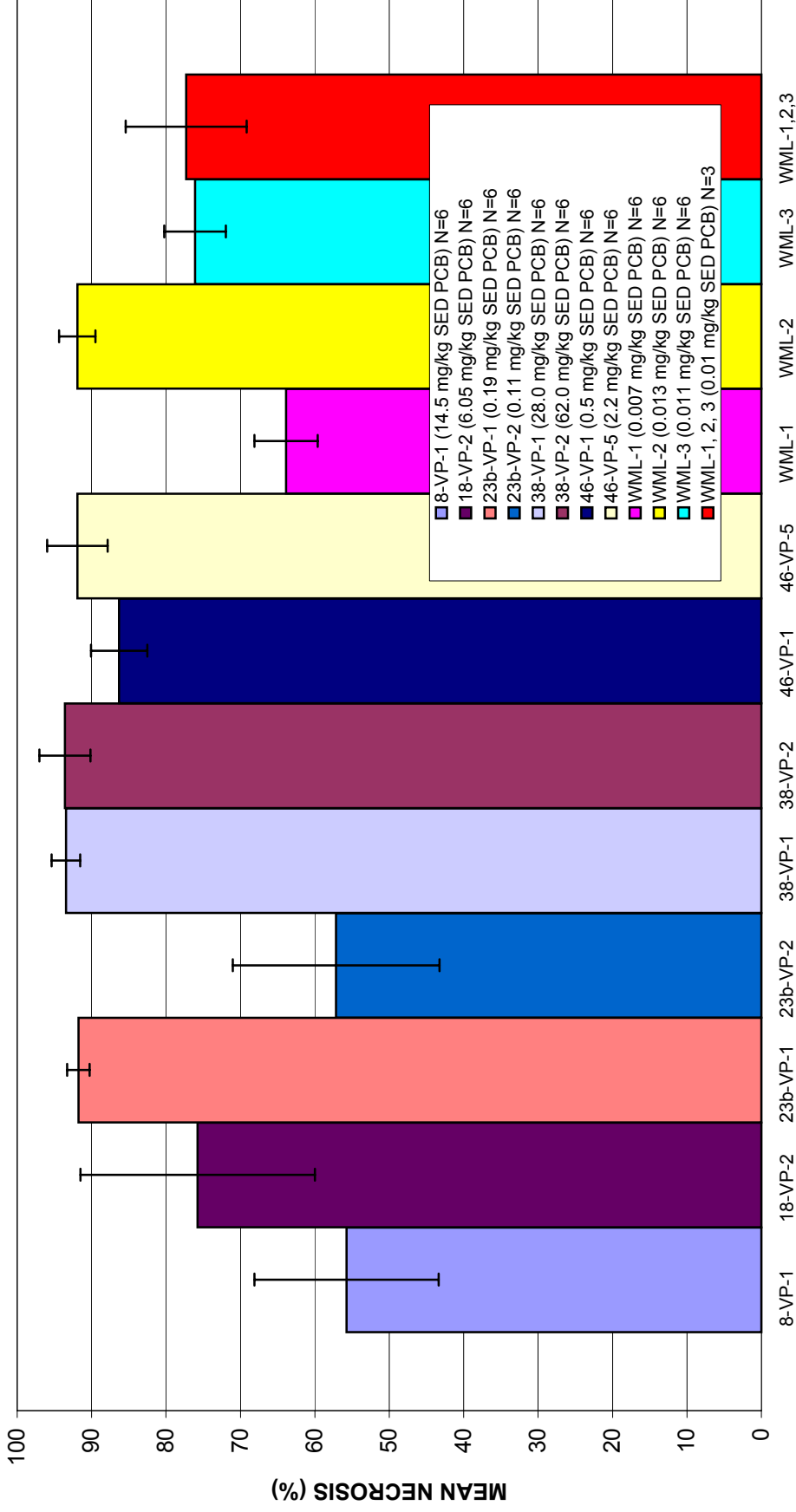
SITE DESCRIPTION

FIGURE 10
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* NECROTIC EGG DATA
(values extrapolated from 25% and 30% subsamples to represent 100% of egg mass)



SITE DESCRIPTION

FIGURE 11
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* EGG MASS HATCHING SUCCESS
(values extrapolated from 70% and 75% subsamples to represent 100% of egg mass)



Error bars denote SEM, N=Egg mass count

SITE DESCRIPTION

FIGURE 12
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* MORTALITY DATA

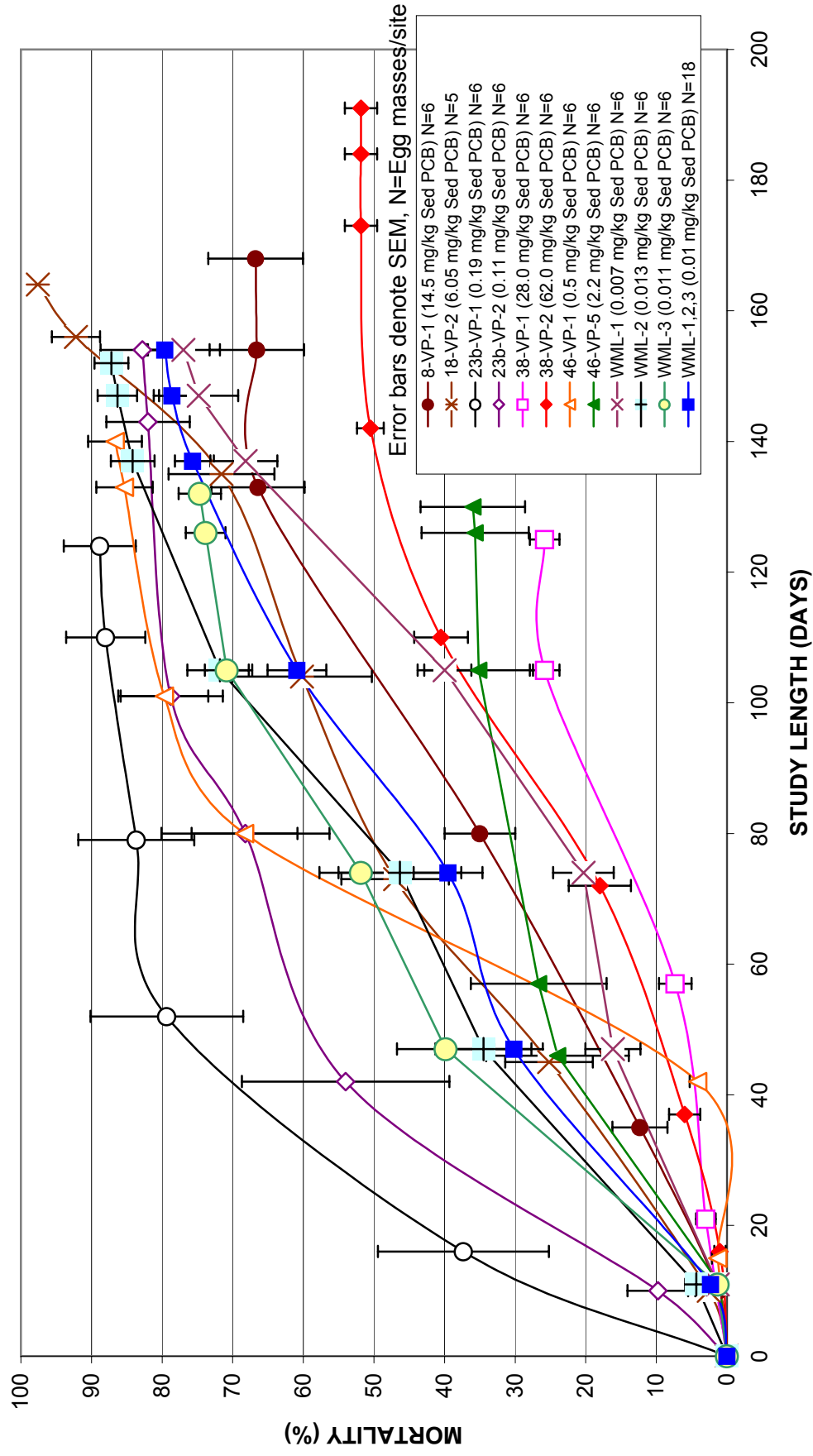


FIGURE 13
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* STAGE DEVELOPMENT
(Based on Gosner Index for Development)

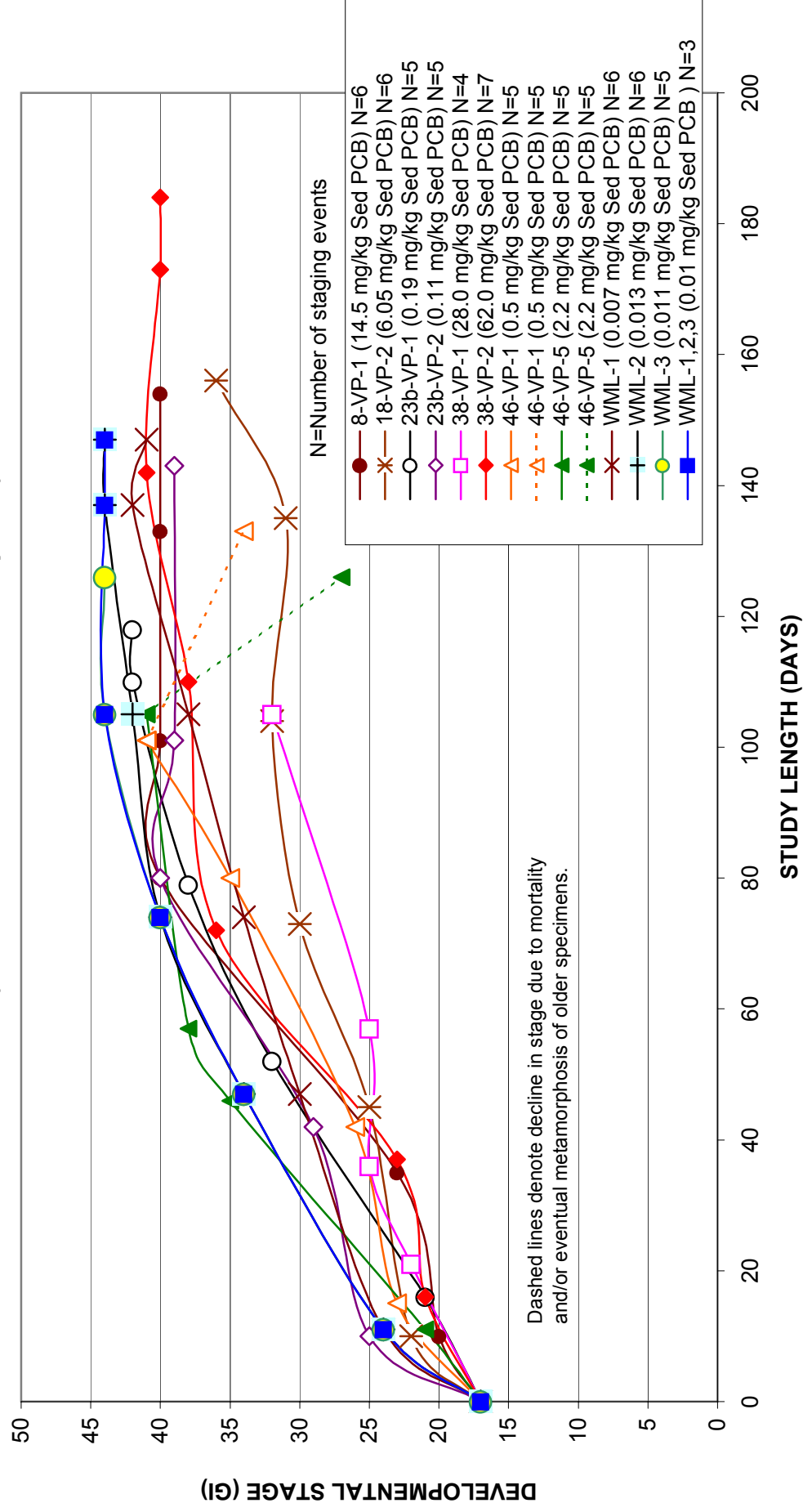


FIGURE 14
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* LARVAL MALFORMATION BY SITE

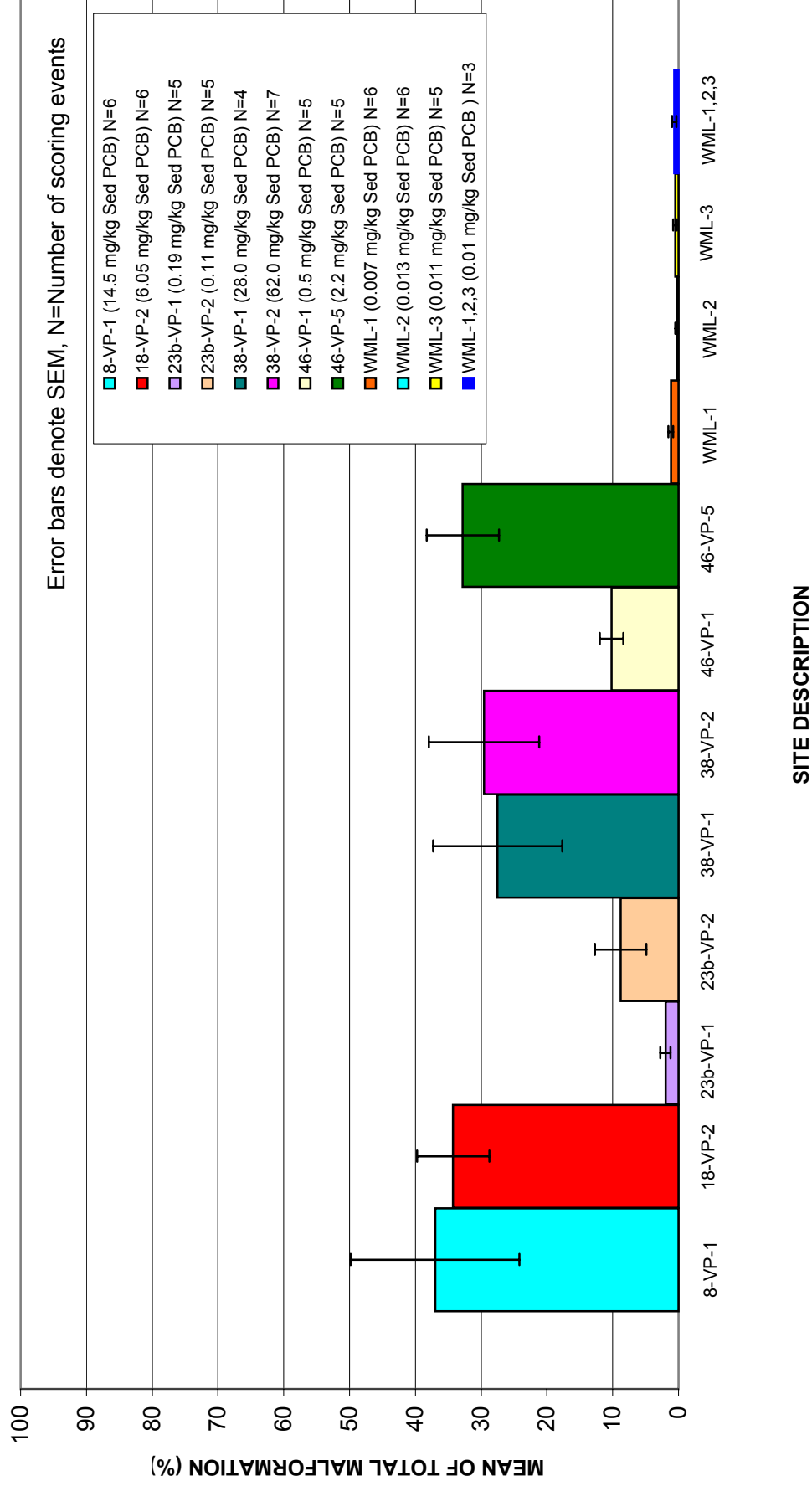


FIGURE 15
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
8-VP-1 (14.5 mg/kg SEDIMENT PCB CONCENTRATION)

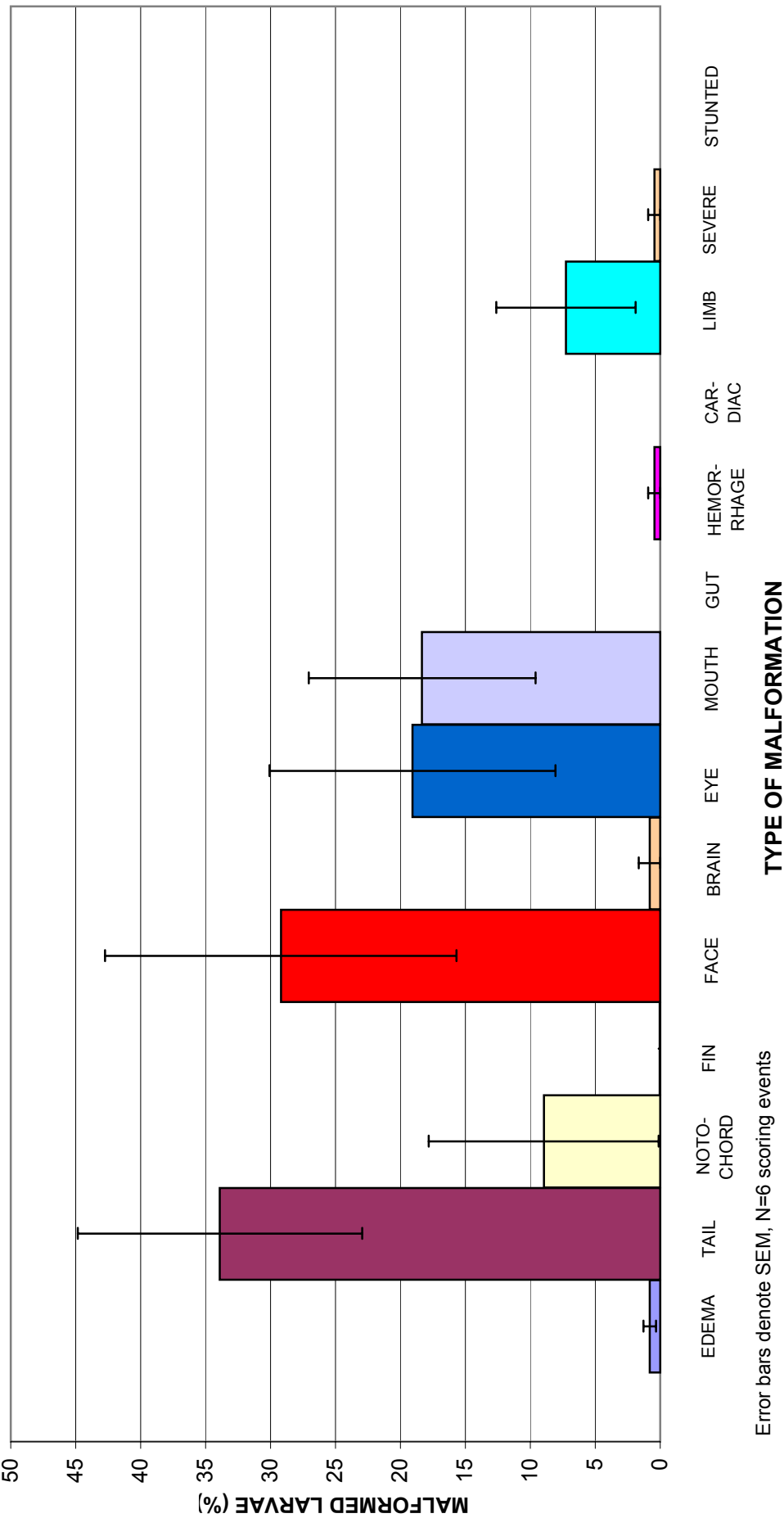


FIGURE 16
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
18-VP-2 (6.05 mg/kg SEDIMENT PCB CONCENTRATION)

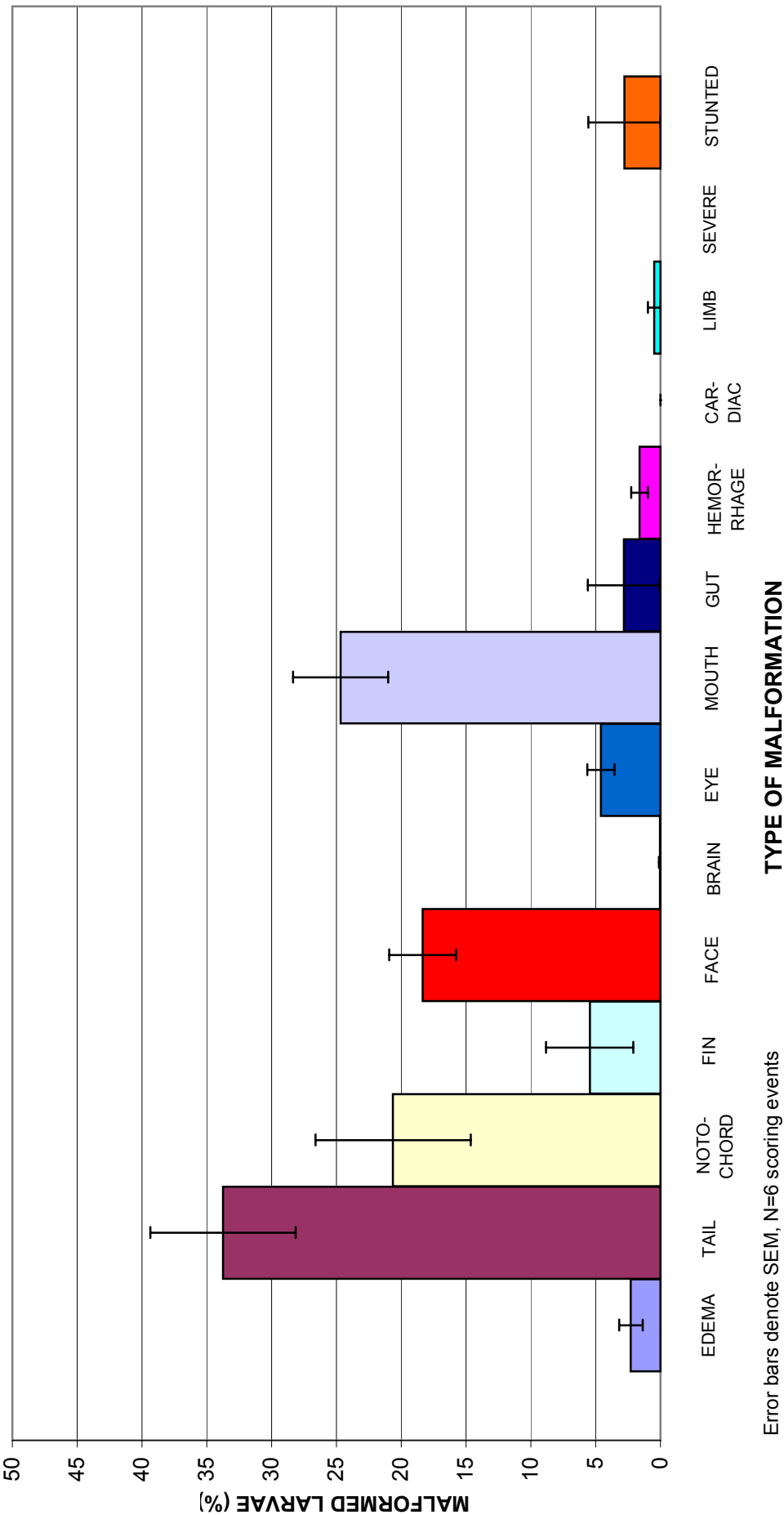


FIGURE 17
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
23b-VP-1 (0.19 mg/kg SEDIMENT PCB CONCENTRATION)

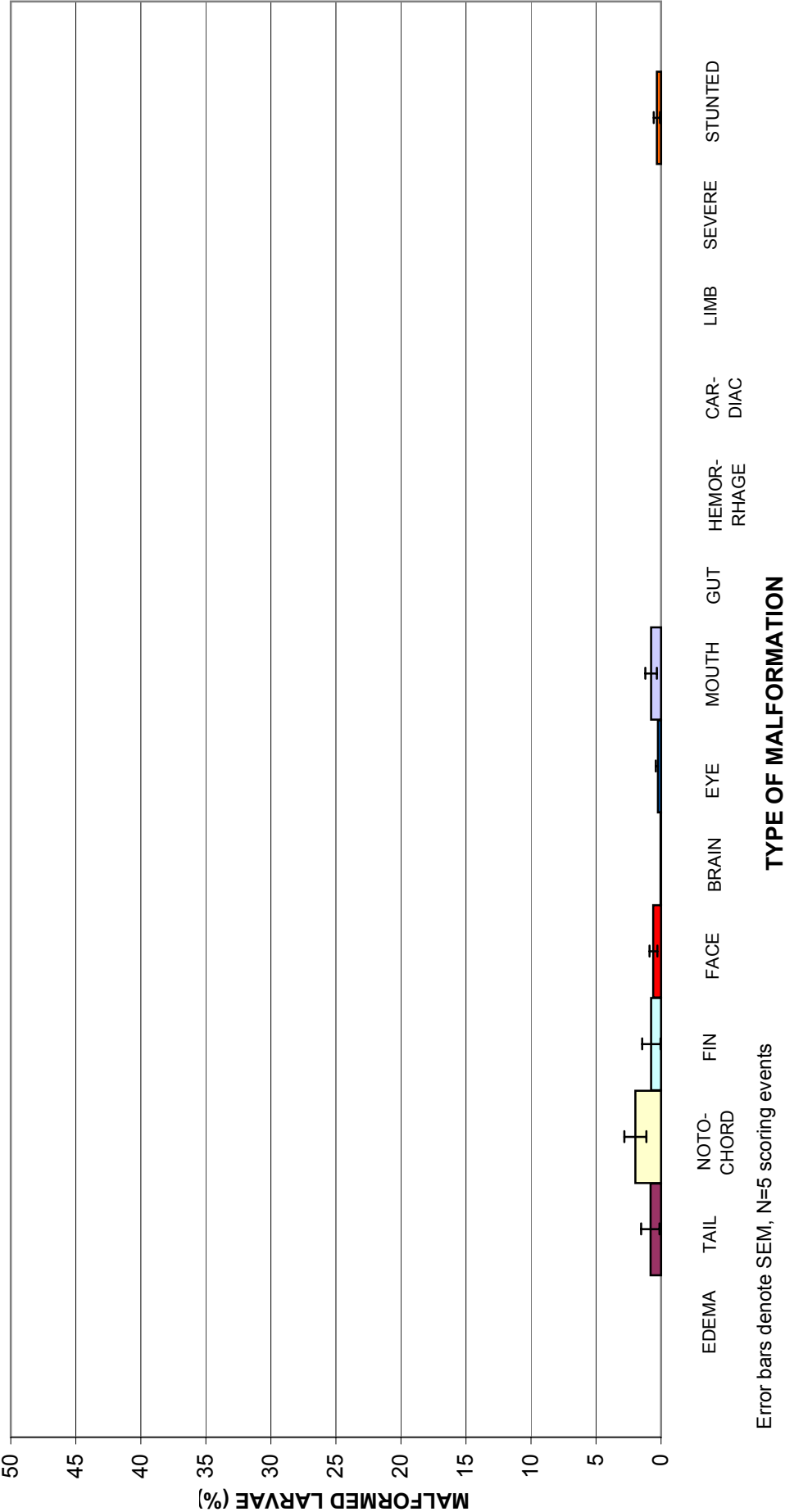


FIGURE 18
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
23b-VP-2 (0.11 mg/kg SEDIMENT PCB CONCENTRATION)

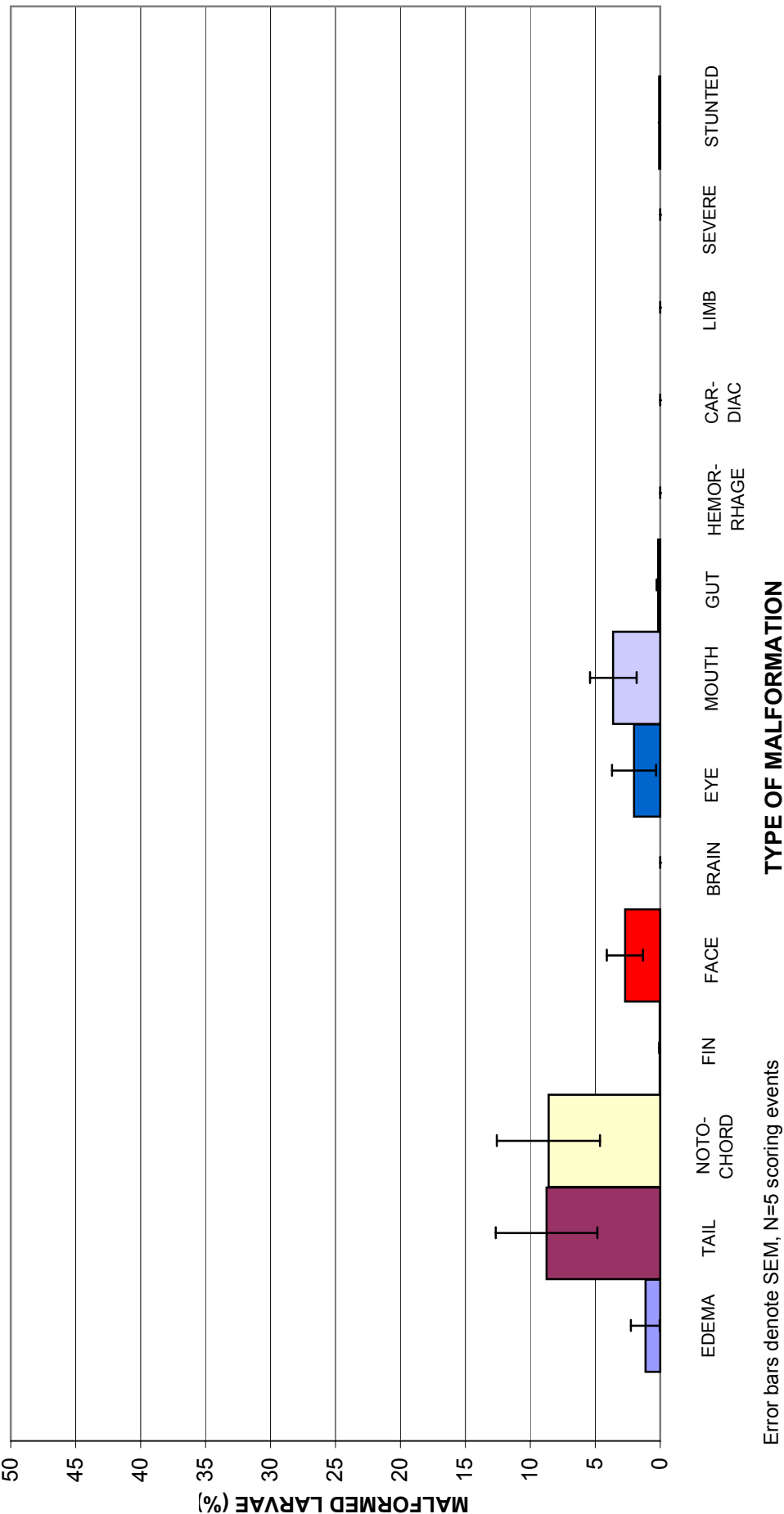


FIGURE 19
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
38-VP-1 (28.0 mg/kg SEDIMENT PCB CONCENTRATION)

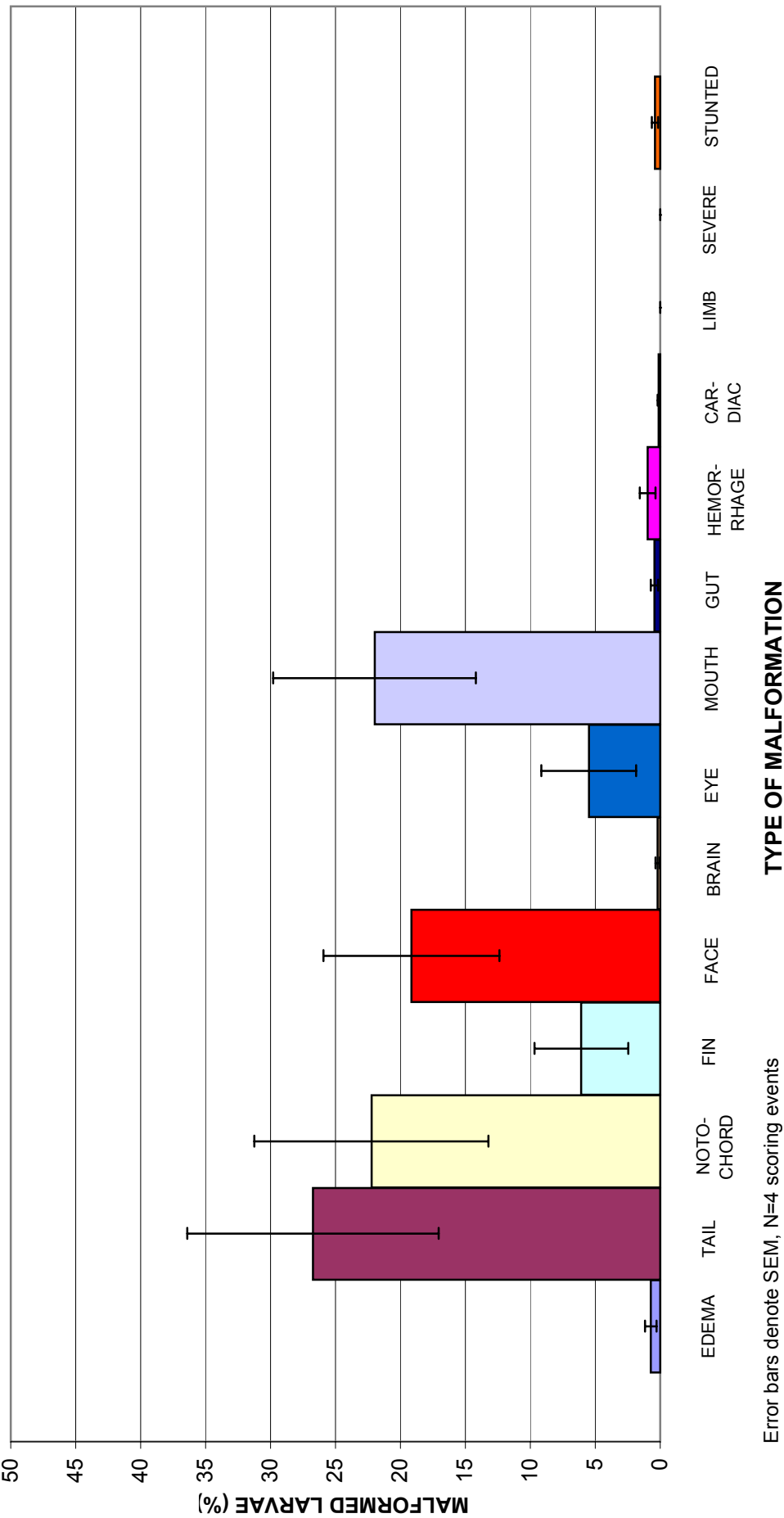


FIGURE 20
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
38-VP-2 (62.0 mg/kg SEDIMENT PCB CONCENTRATION)

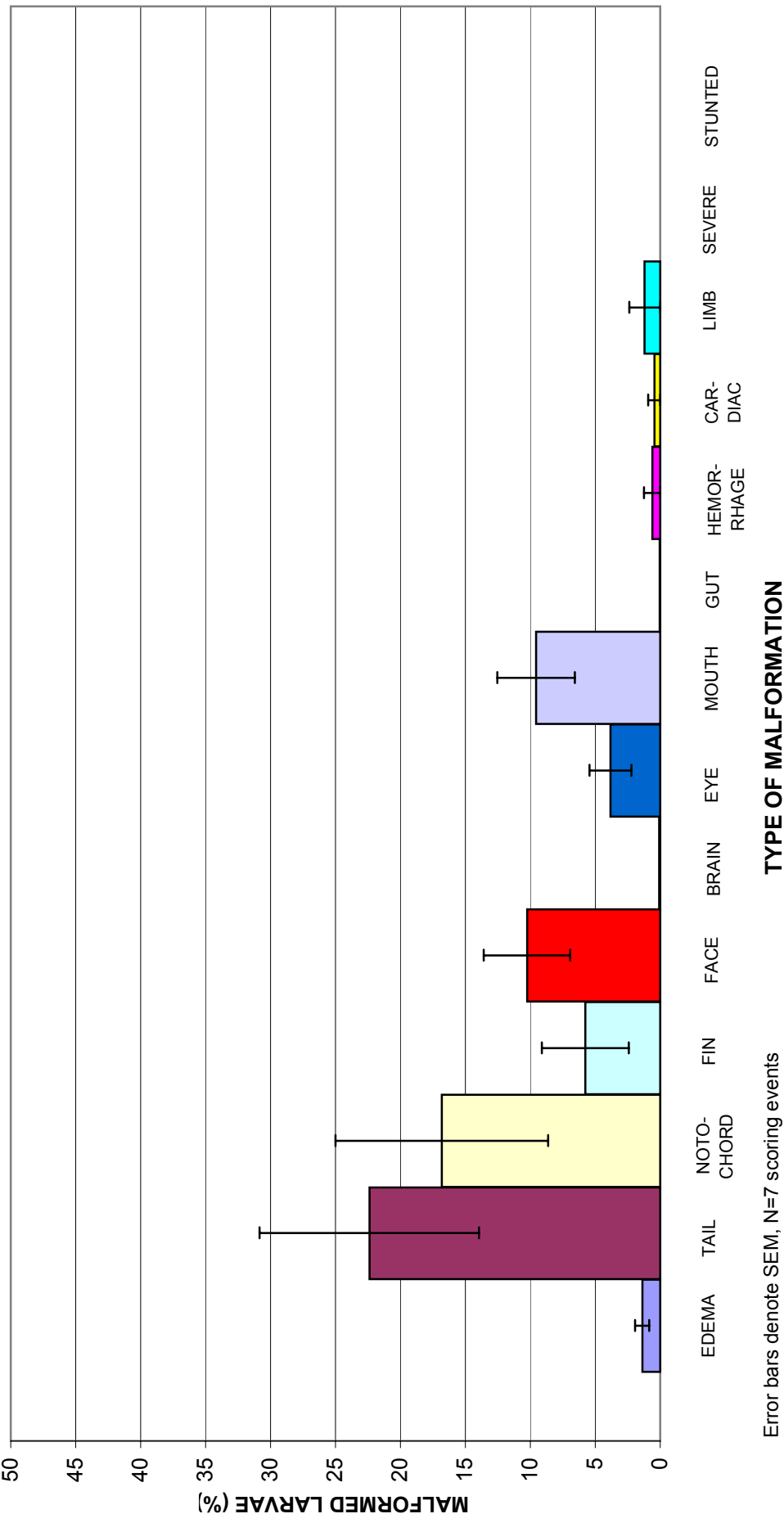


FIGURE 21
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
46-VP-1 (0.5 mg/kg SEDIMENT PCB CONCENTRATION)

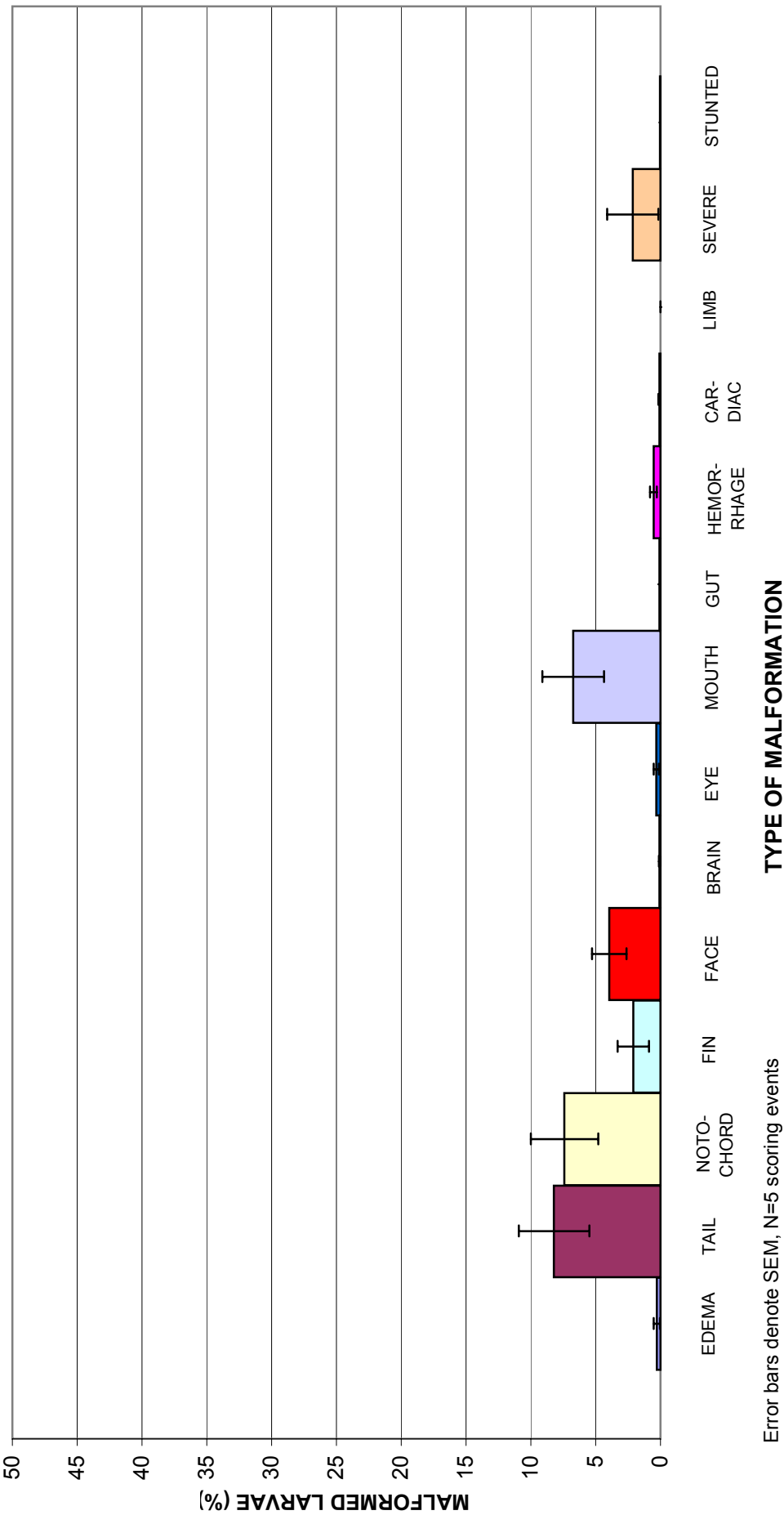


FIGURE 22
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
46-VP-5 (2.2 mg/kg SEDIMENT PCB CONCENTRATION)

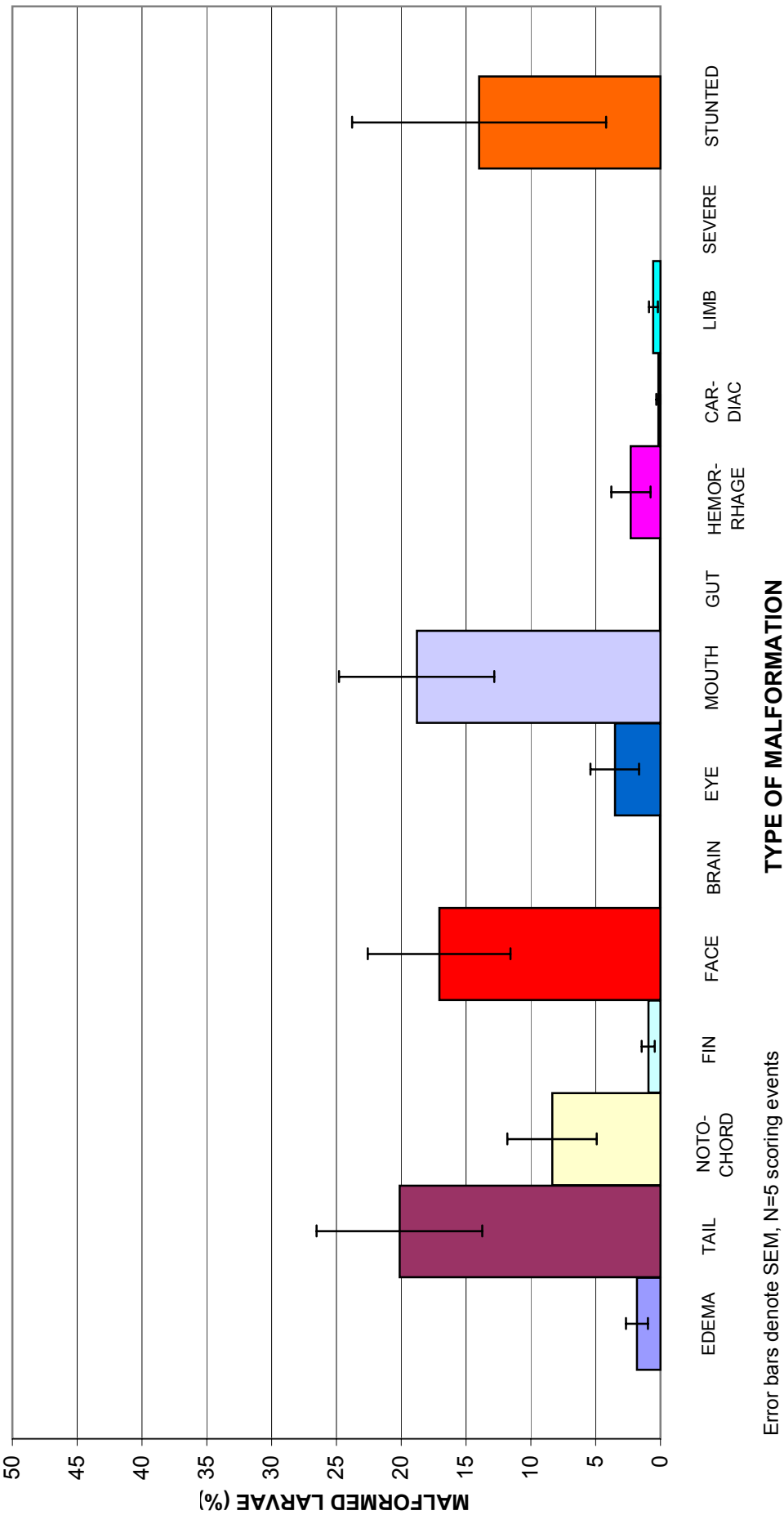


FIGURE 23
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE I
WML-1,2,3 (0.01 mg/kg SEDIMENT PCB CONCENTRATION)

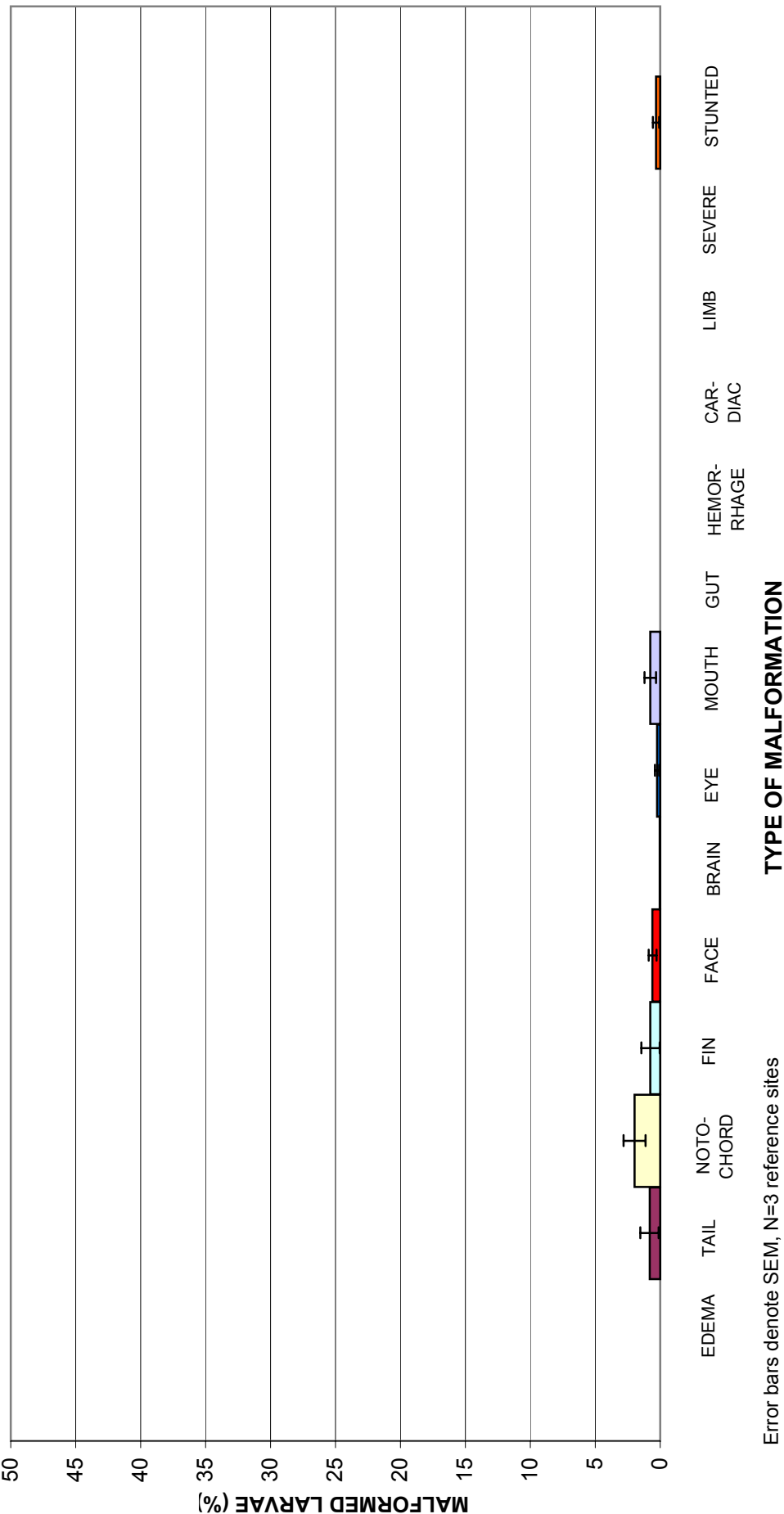


FIGURE 24
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* LARVAL GROWTH DATA
(Mean Length in cm)

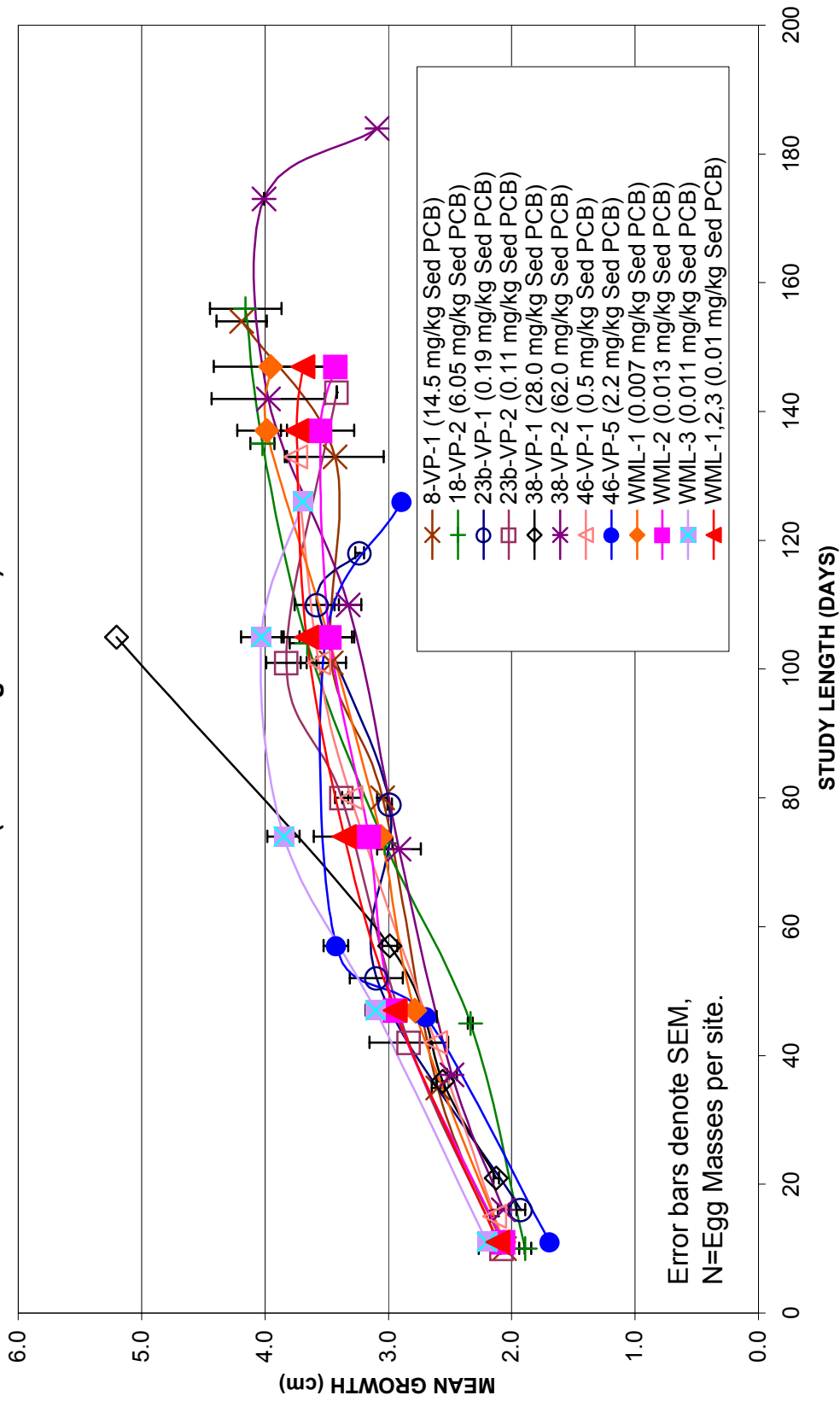


FIGURE 25
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I TOTAL METAMORPHOSIS BY SITE

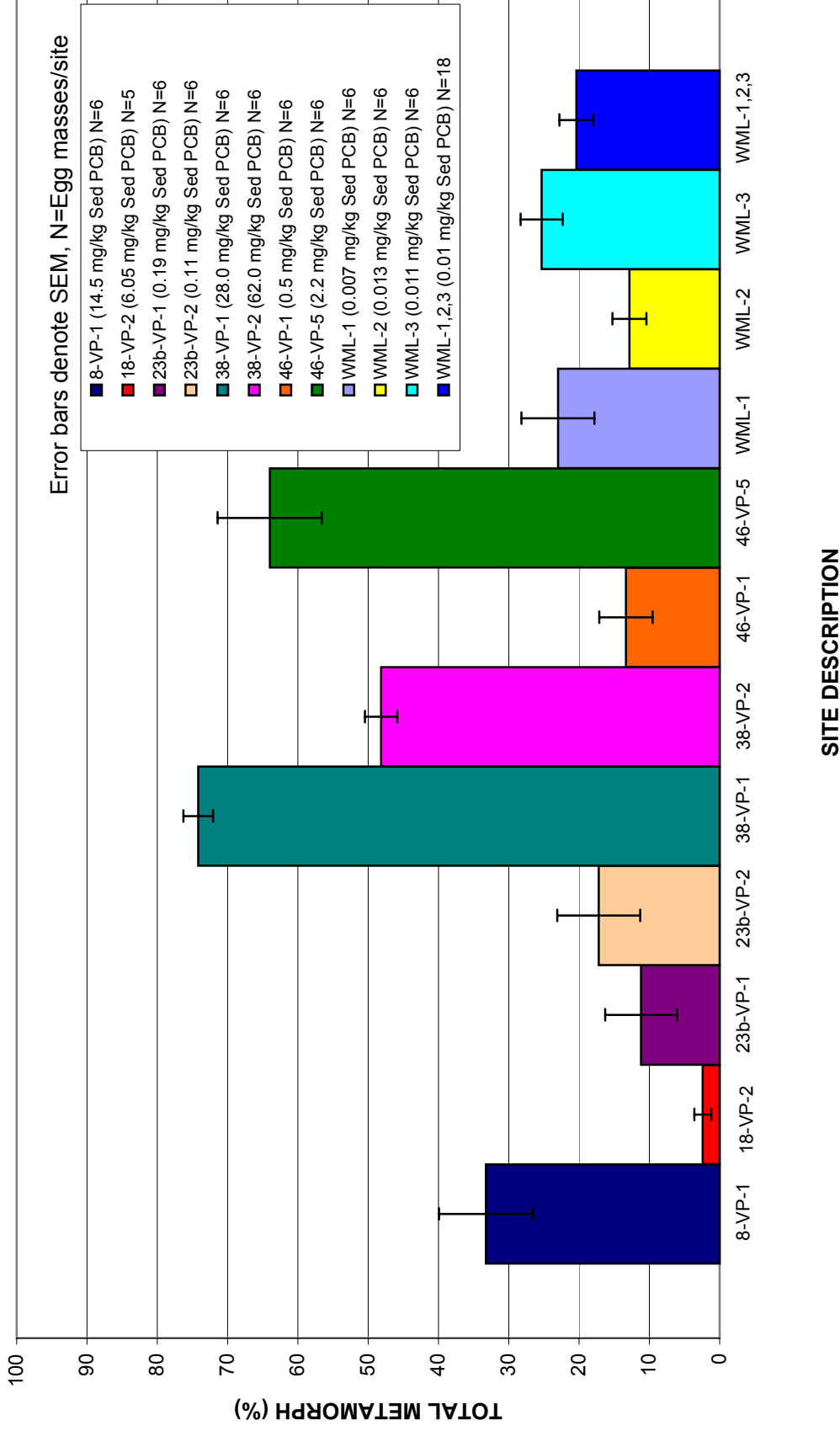


FIGURE 26
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA

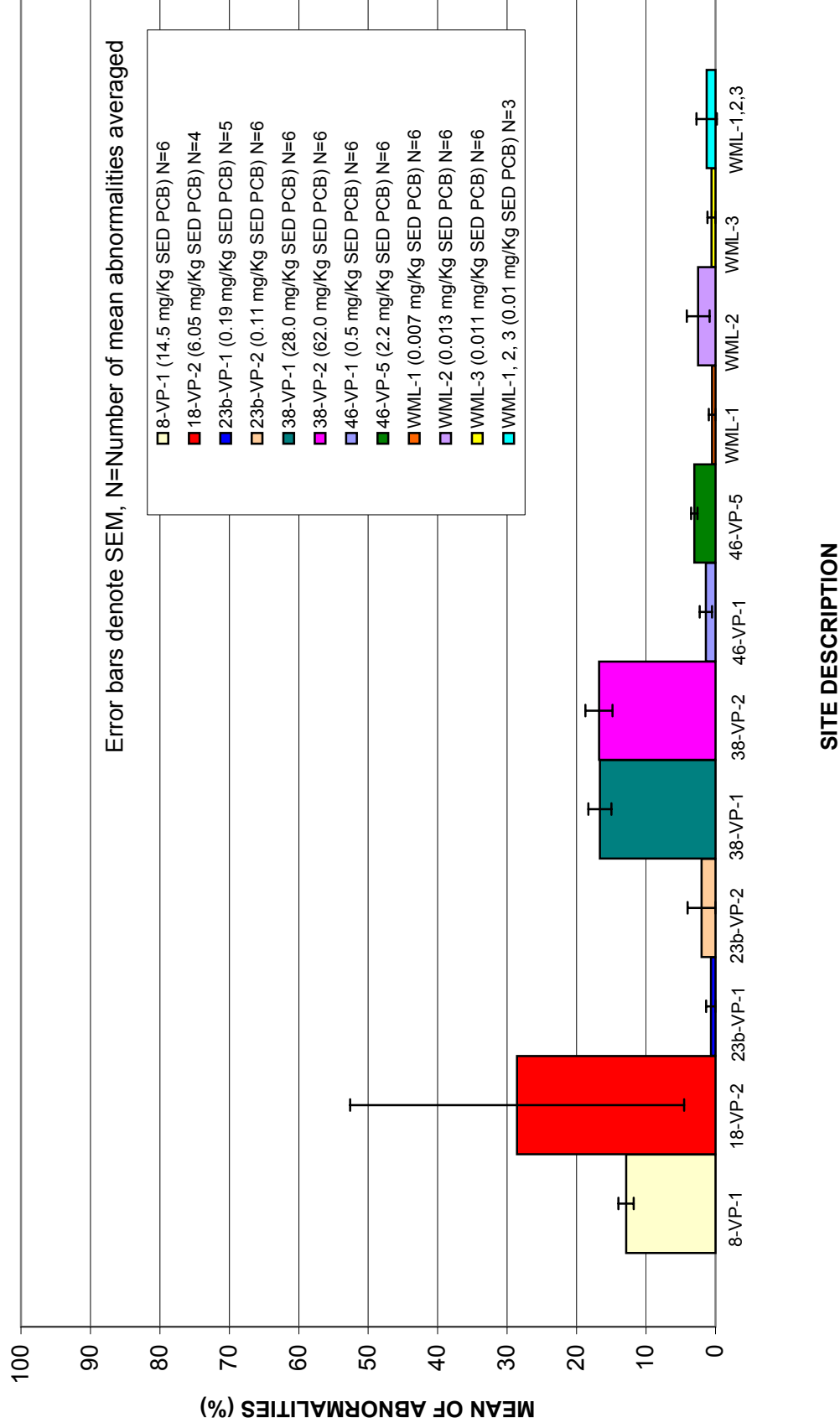


FIGURE 27
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I FINAL METAMORPH WEIGHT DATA

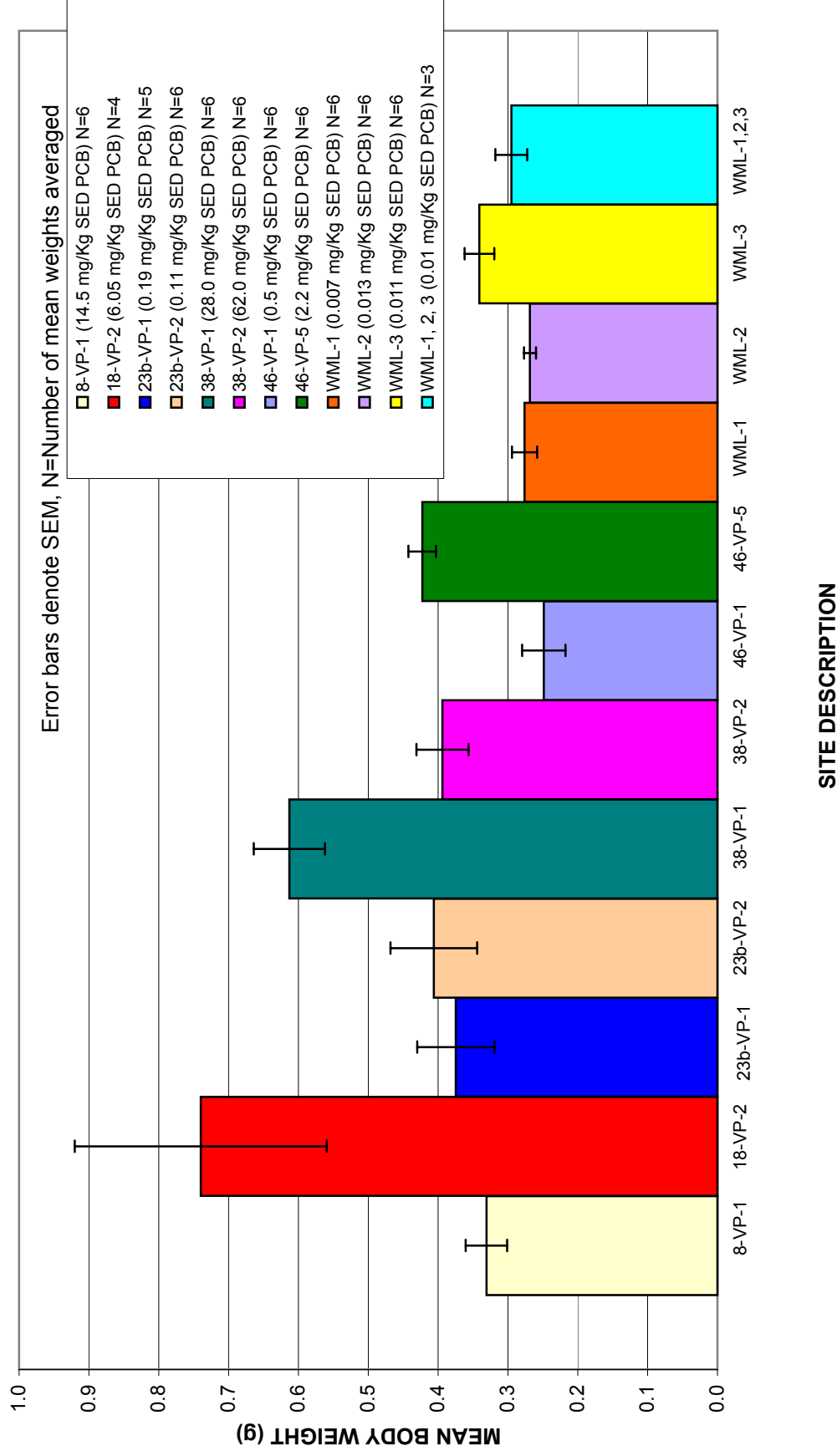


FIGURE 28
HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *IRANA sylvatica* MORTALITY DATA

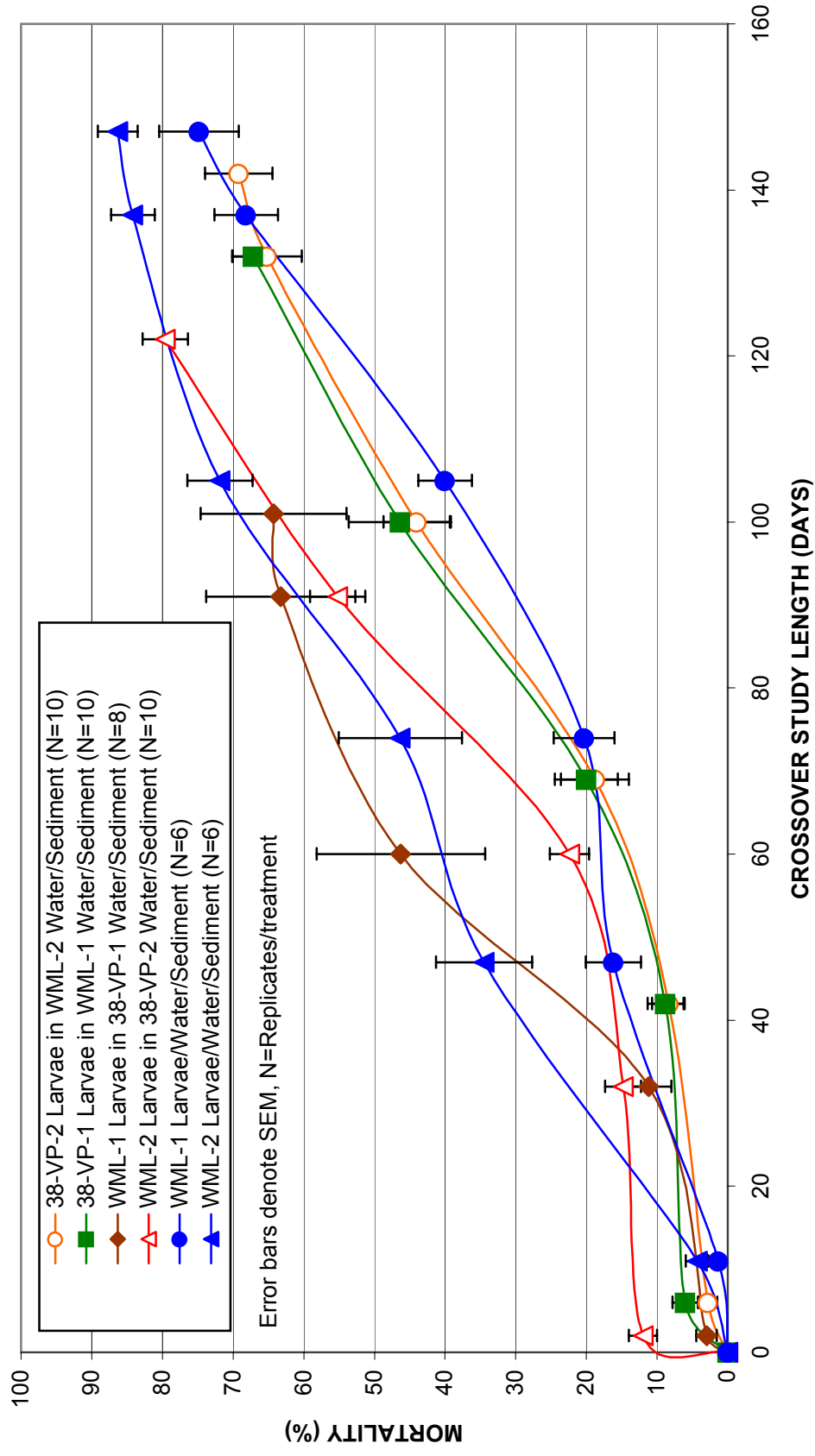


FIGURE 29
HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatic* LARVAL MALFORMATION DATA

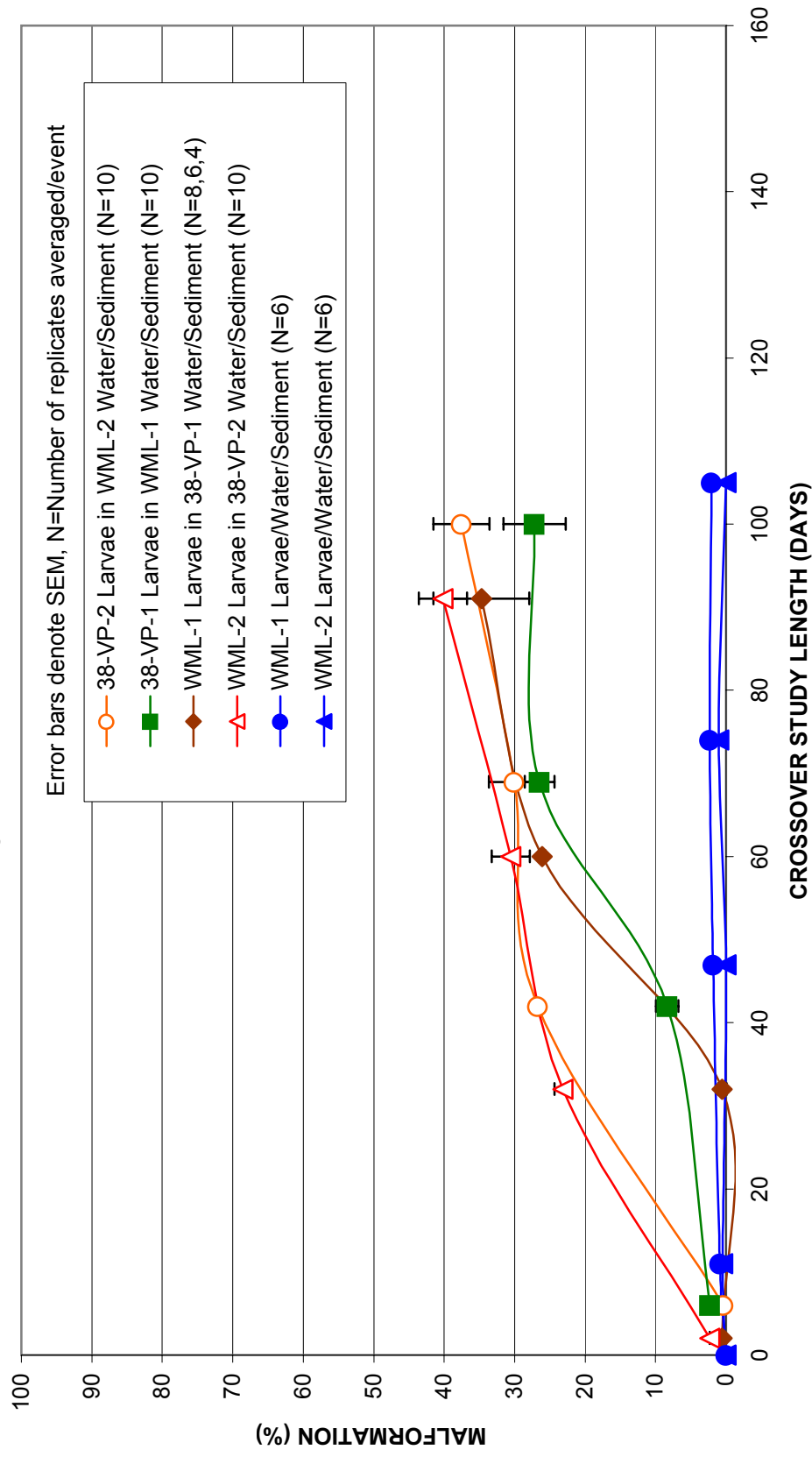


FIGURE 30
HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* GROWTH DATA
(Mean Length in cm)

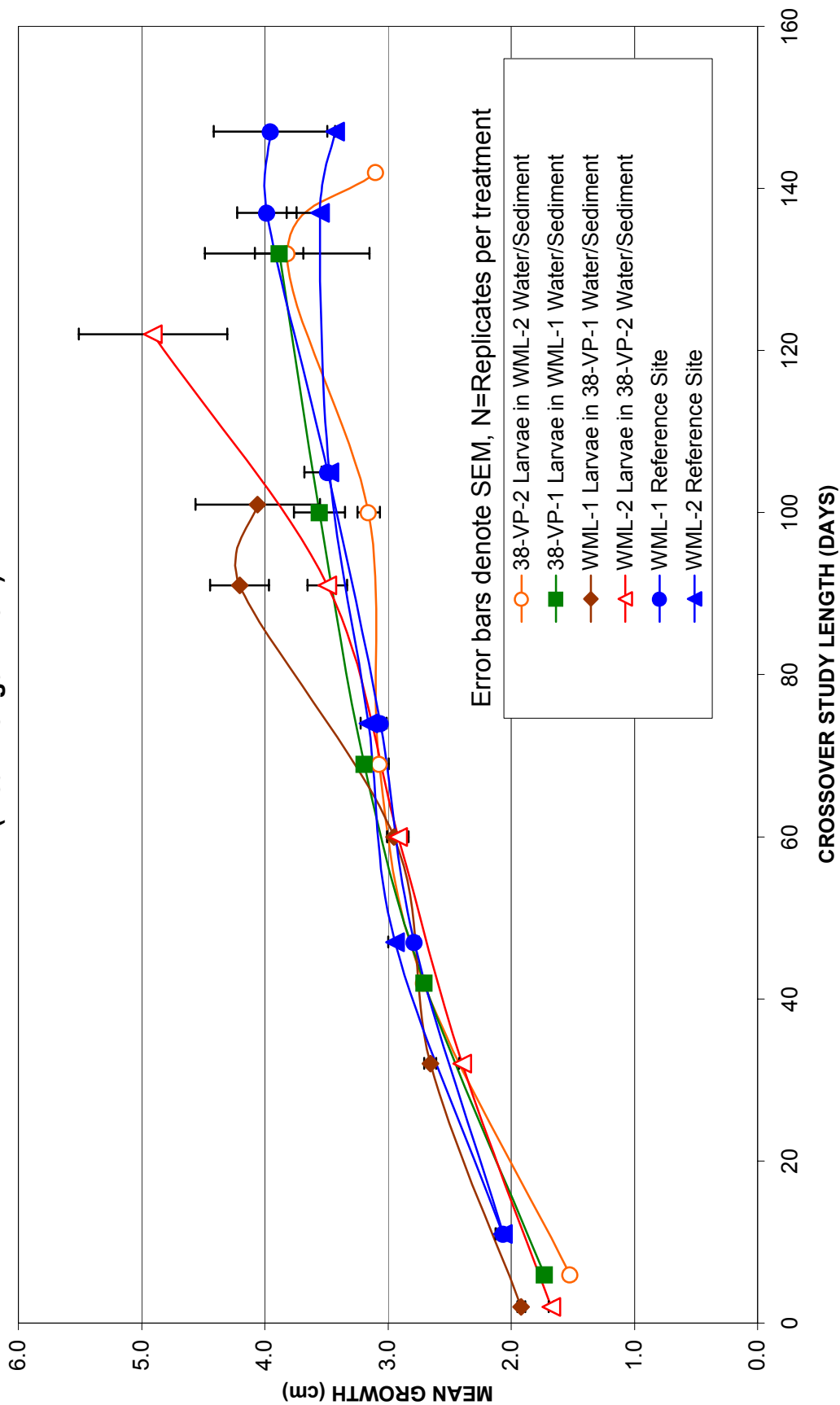


FIGURE 31
HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* METAMORPHOSIS DATA

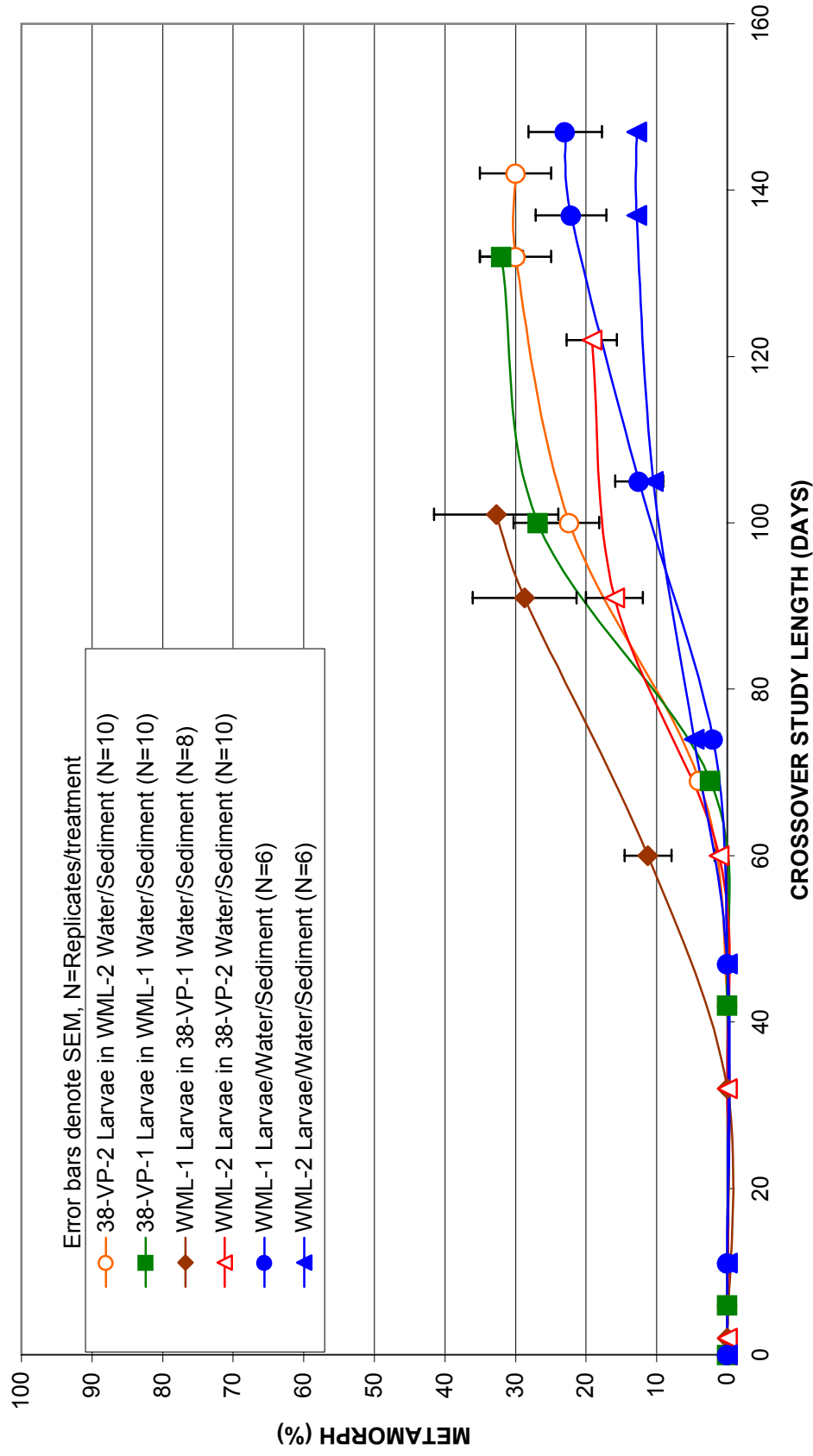
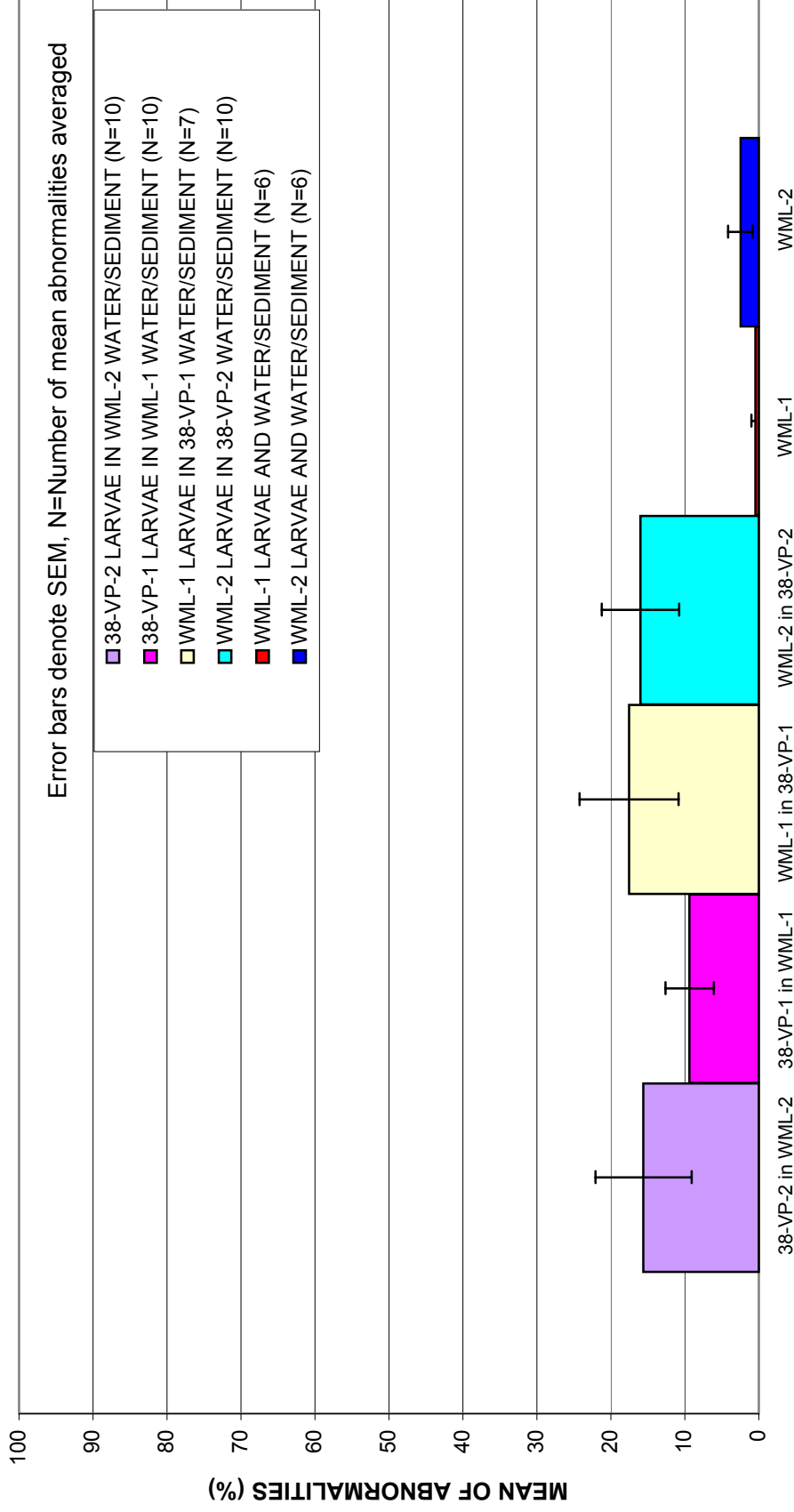


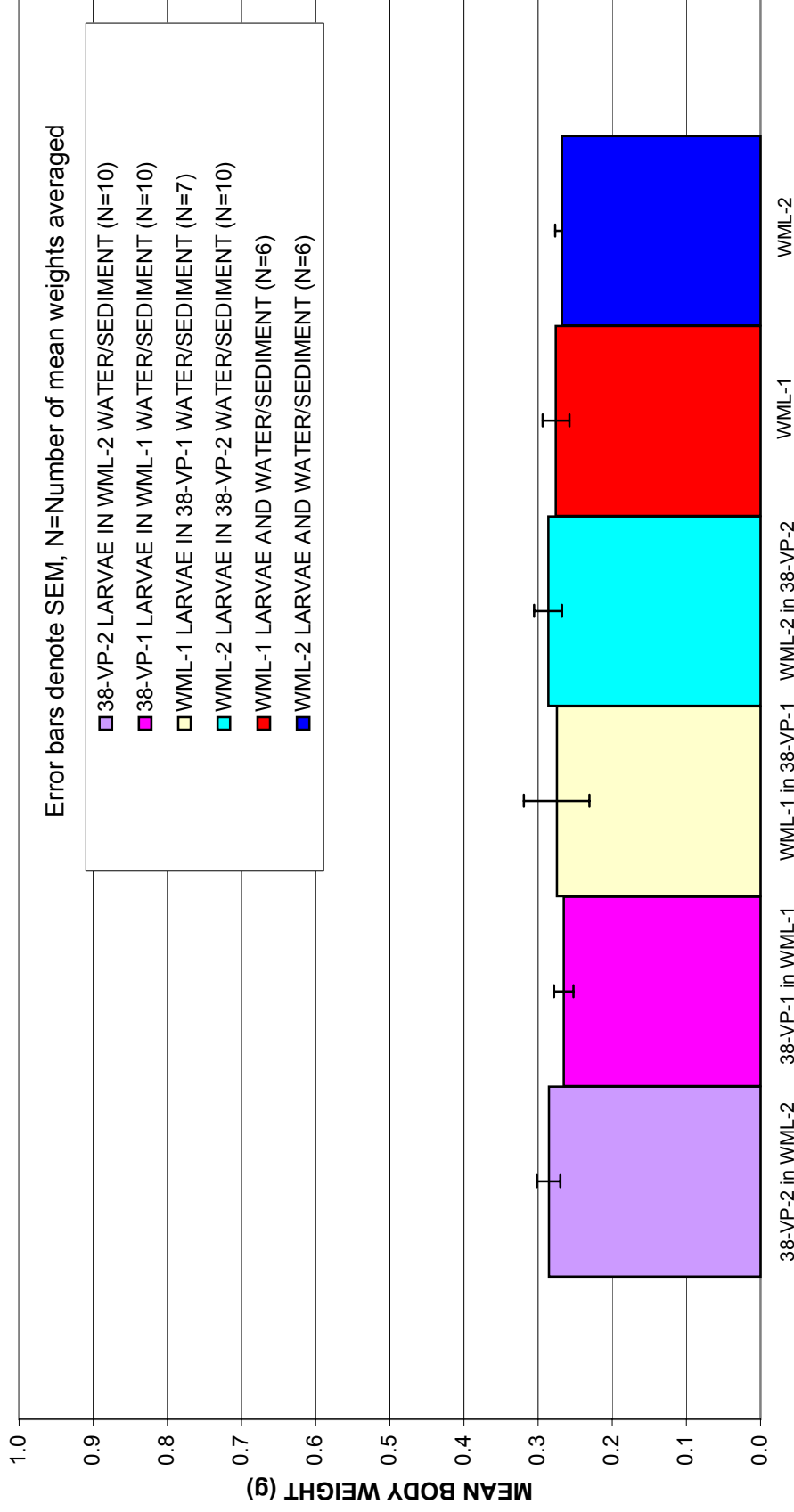
FIGURE 32
HOUSATONIC RIVER PROJECT
VERNAL POOL Crossover STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA



38-VP-2 Sediment PCB=62.0 mg/kg
 38-VP-1 Sediment PCB=28.0 mg/kg
 WML-1, 2 Sediment PCB=0.01 mg/kg

Crossover Treatment Description

FIGURE 33
HOUSATONIC RIVER PROJECT
VERNAL POOL Crossover STUDY 2000
PHASE I METAMORPH WEIGHT DATA



38-VP-2 Sediment PCB=62.0 mg/kg
 38-VP-1 Sediment PCB=28.0 mg/kg
 WML-1, 2 Sediment PCB=0.01 mg/kg

Crossover Treatment Description

FIGURE 34
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica MORTALITY DATA
WML-3 (Spiked with 30.0 mg/kg Aroclor 1260)

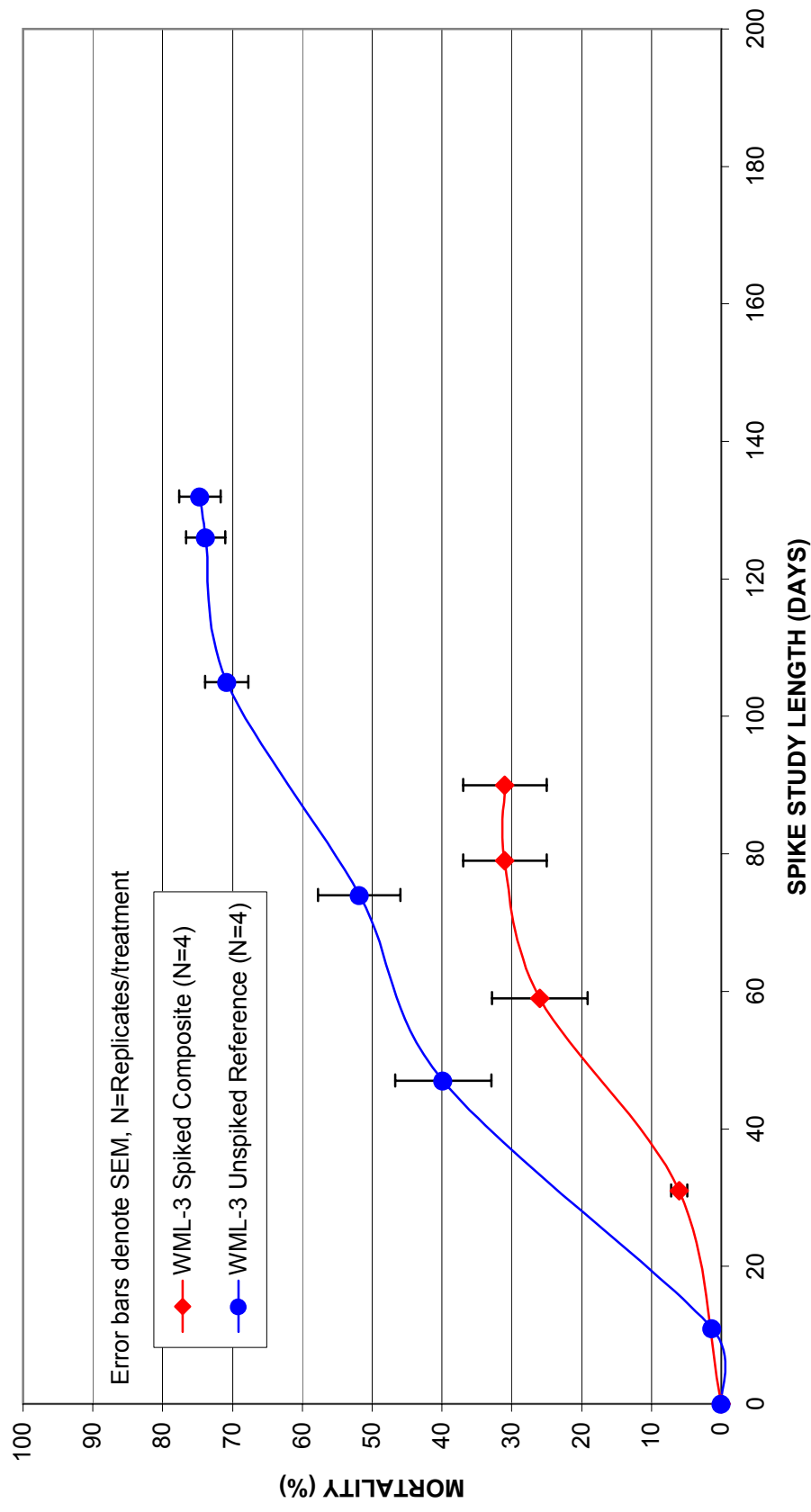


FIGURE 35
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I *RANA sylvatica* LARVAL MALFORMATION DATA
WML-3 (Spiked with 30.0 mg/kg Aroclor 1260)

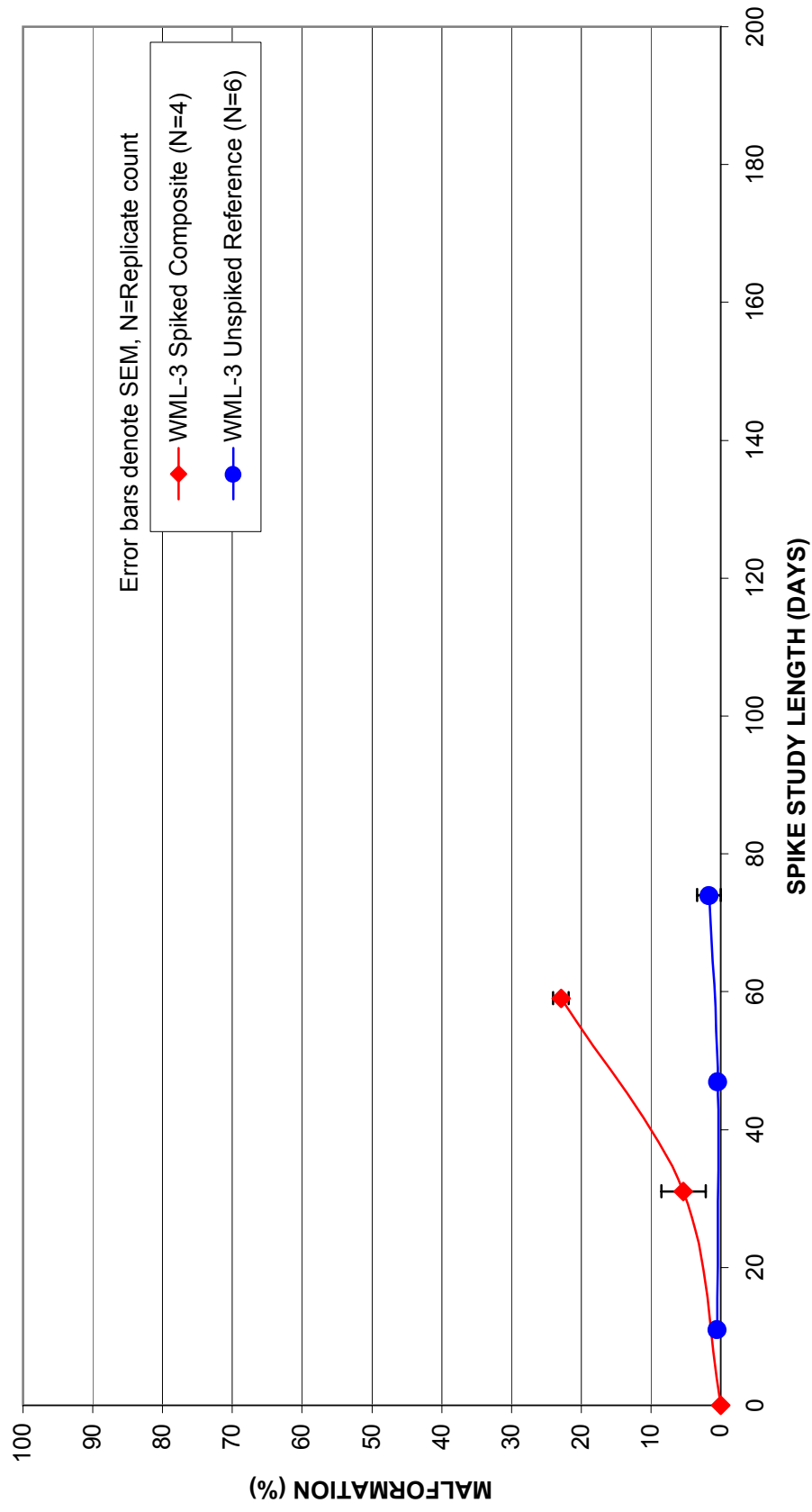


FIGURE 36
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I *RANA sylvatica* GROWTH DATA
WML-3 (Spiked with 30.0 mg/kg Aroclor 1260)
(Mean Length in cm)

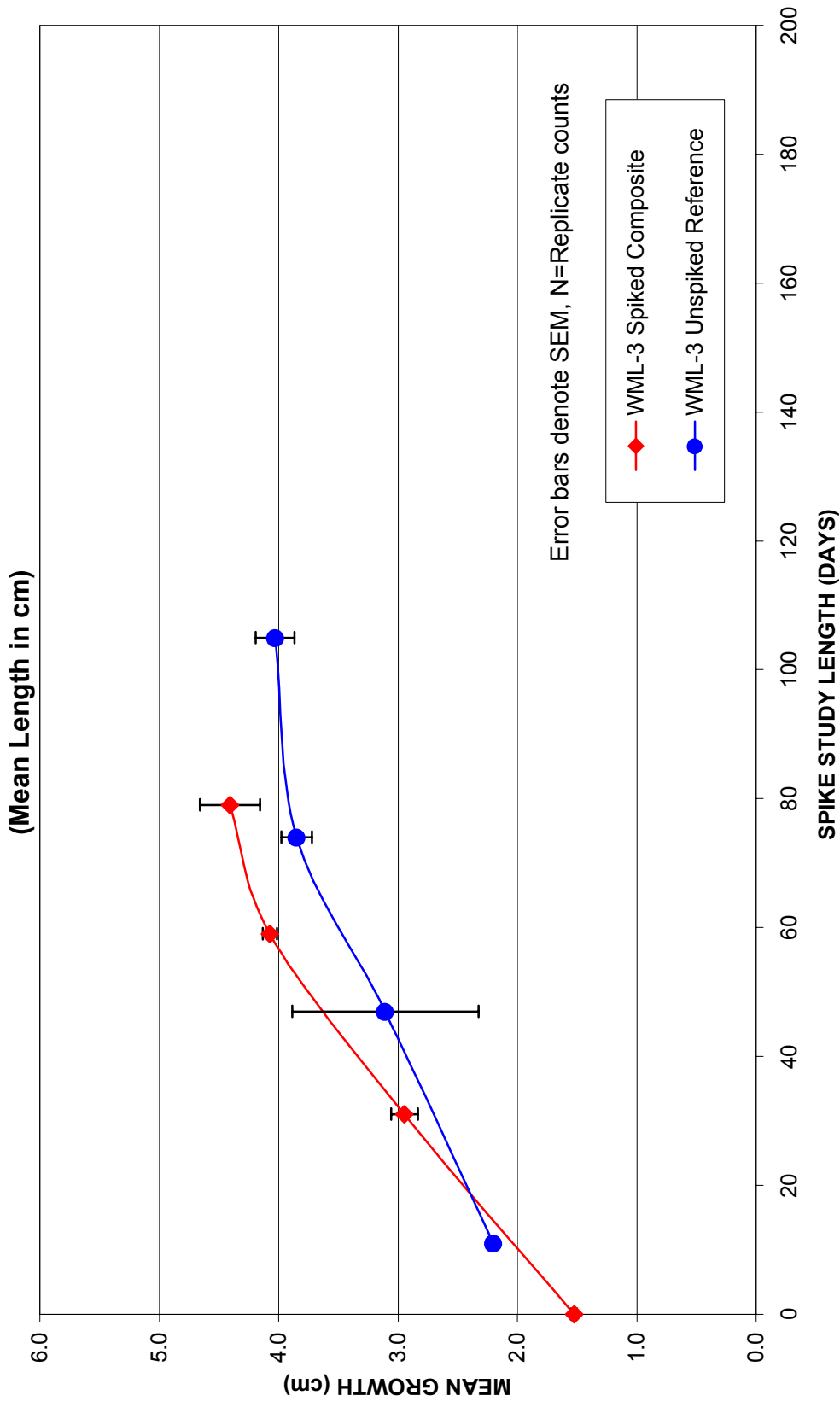


FIGURE 37
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I *RANA sylvatica* METAMORPHOSIS DATA
WML-3 (Spiked with 30.0 mg/kg Aroclor 1260)

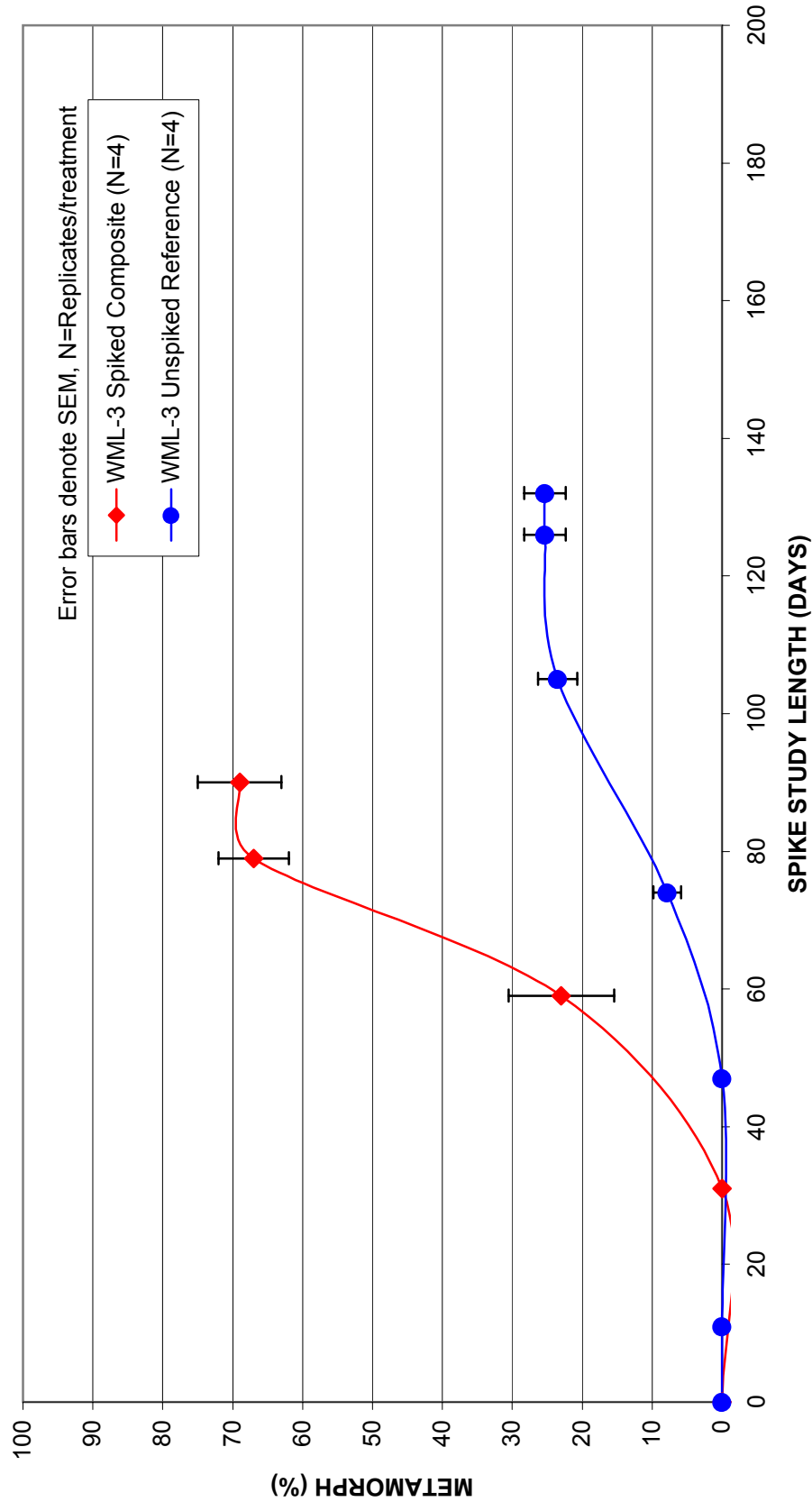
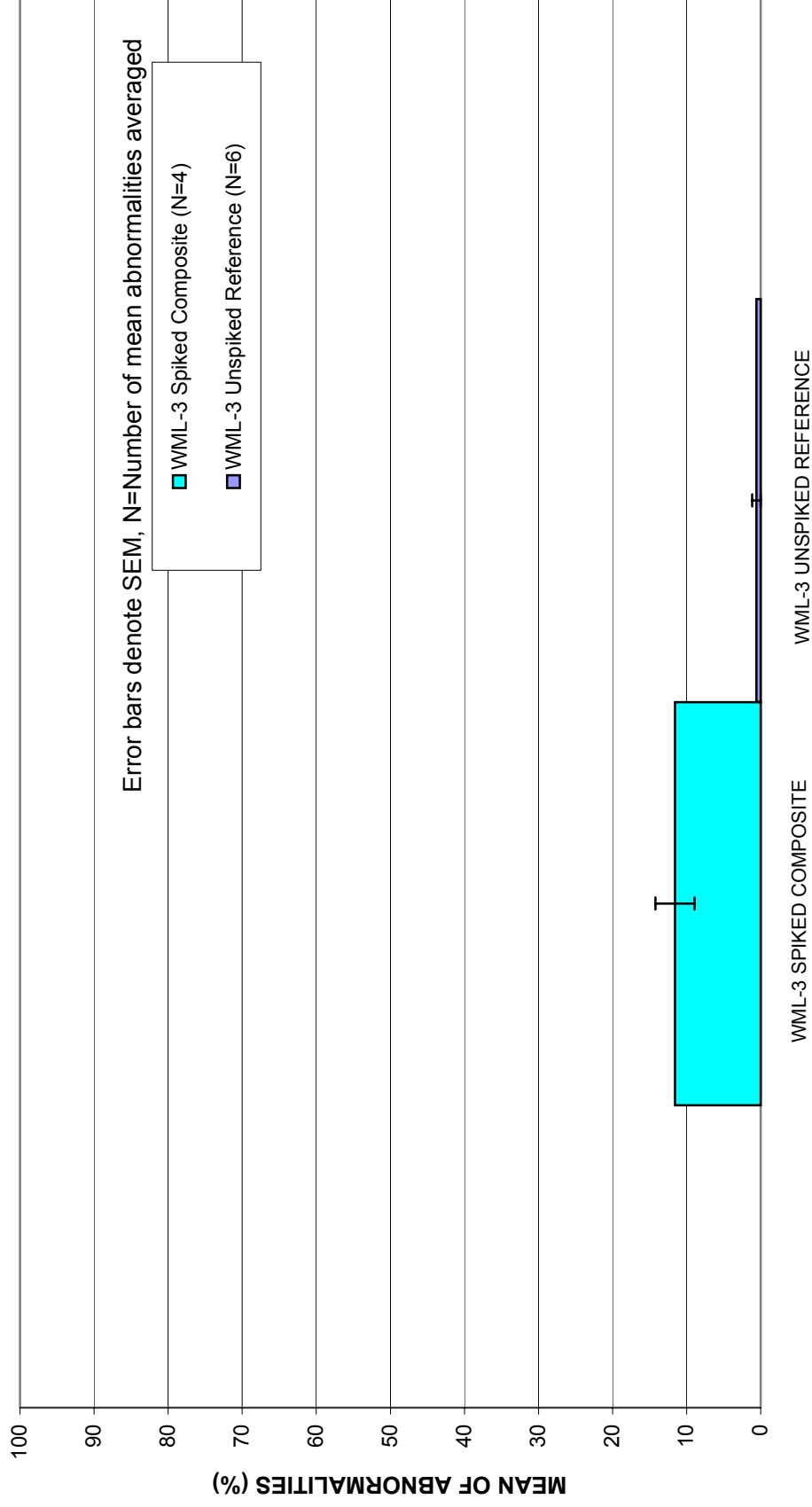
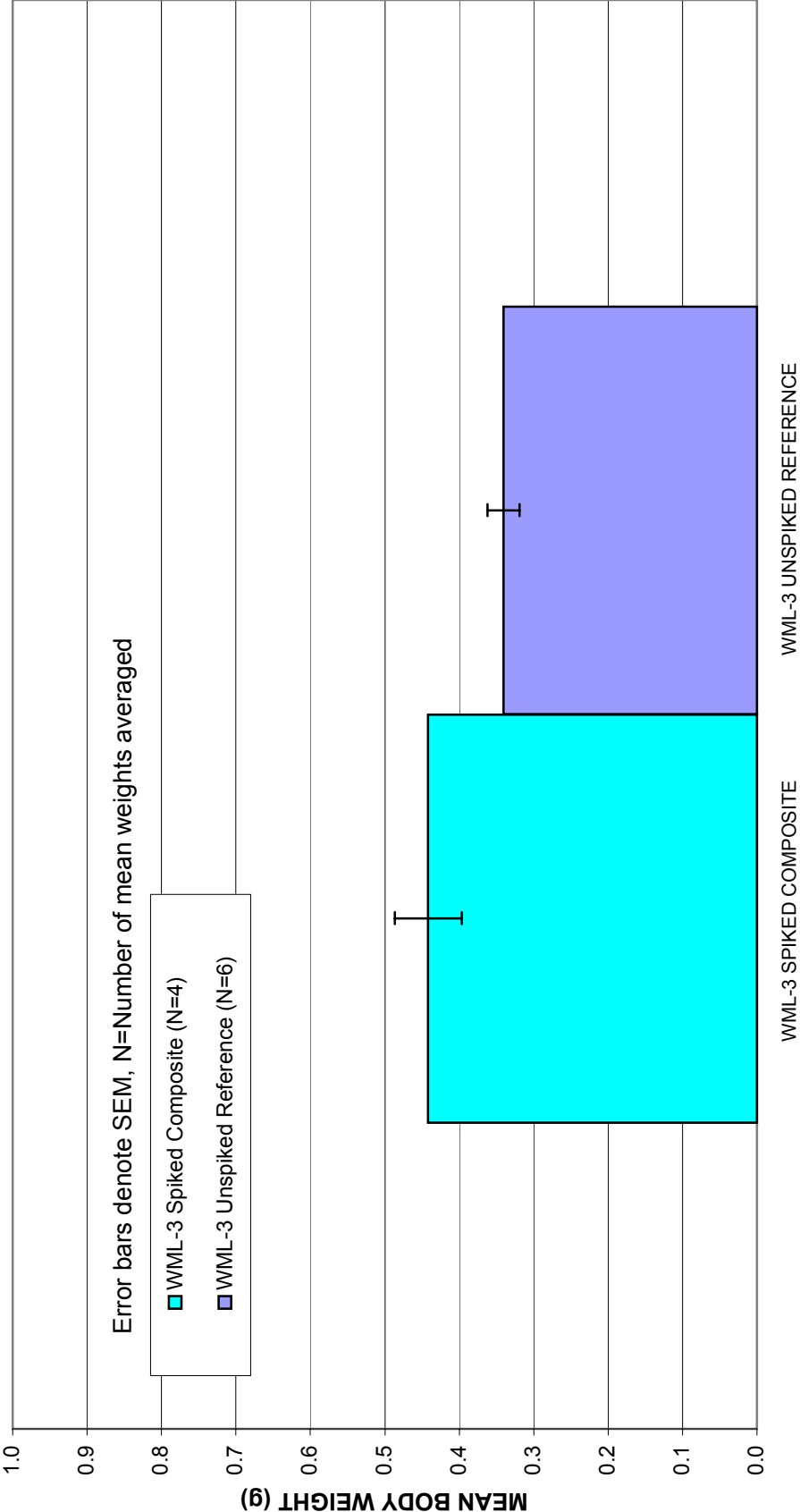


FIGURE 38
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
WML-3 (SPIKED WITH 30.0 mg/kg AROCLOR 1260)



SPIKE TREATMENT DESCRIPTION

FIGURE 39
HOUSATONIC RIVER PROJECT
VERNAL POOL SPIKE STUDY 2000
PHASE I FINAL METAMORPH WEIGHT DATA
WML-3 (SPIKED WITH 30.0 mg/kg AROCLOR 1260)



SITE DESCRIPTION

FIGURE 40
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE II TOTAL PCB CONCENTRATIONS
TADPOLE LARVAL GRAB SAMPLES^{1,2,3}

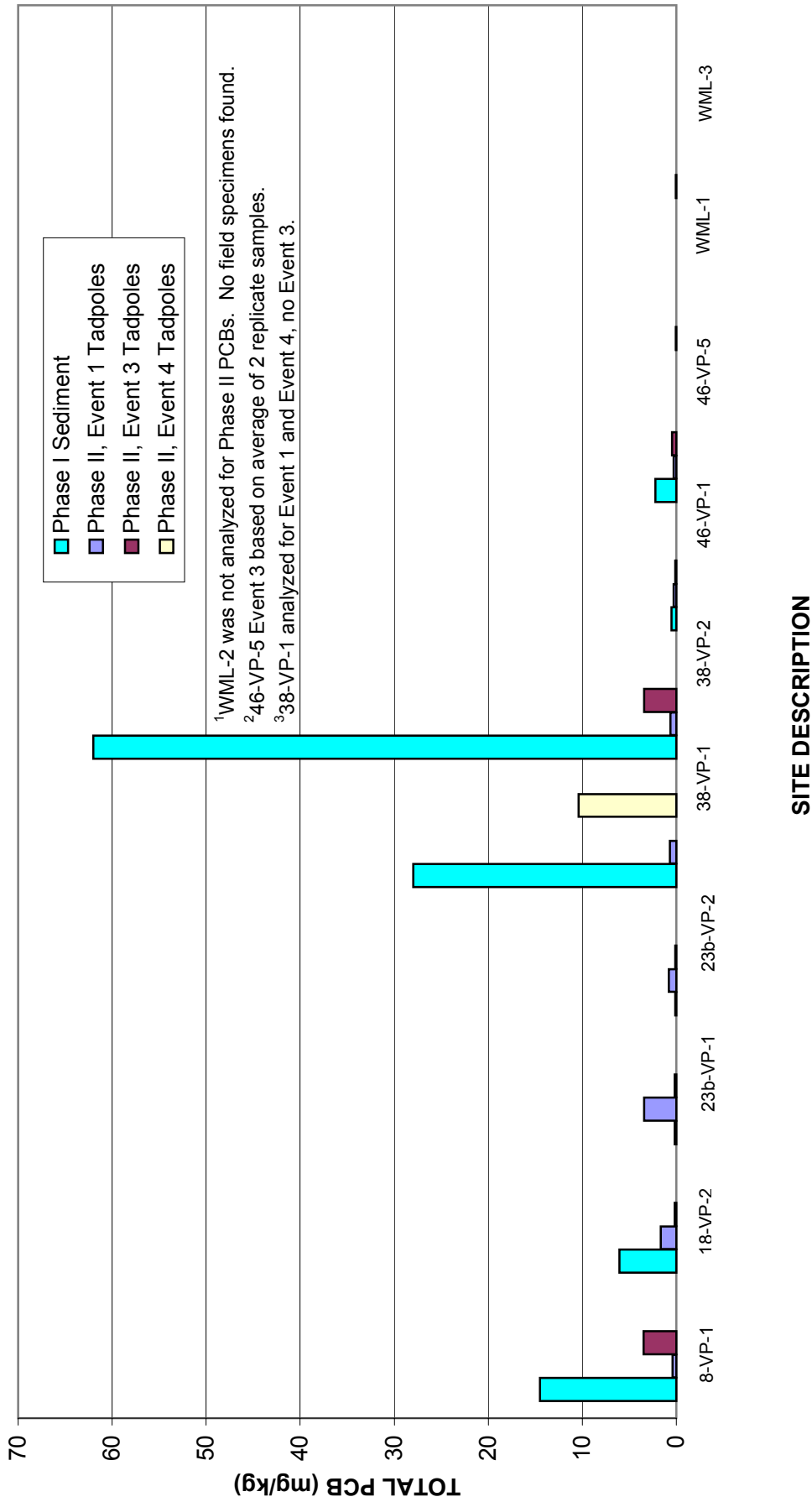
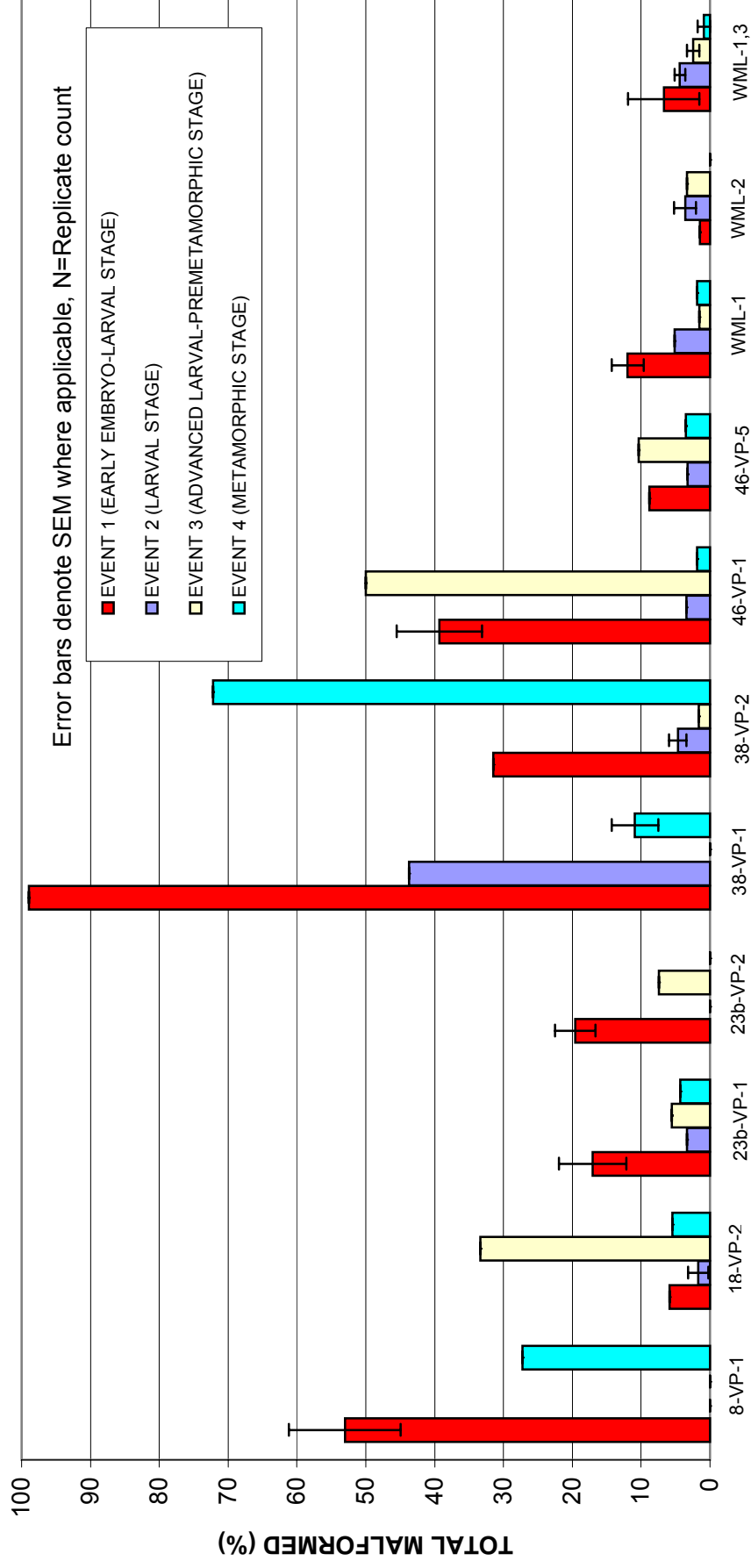
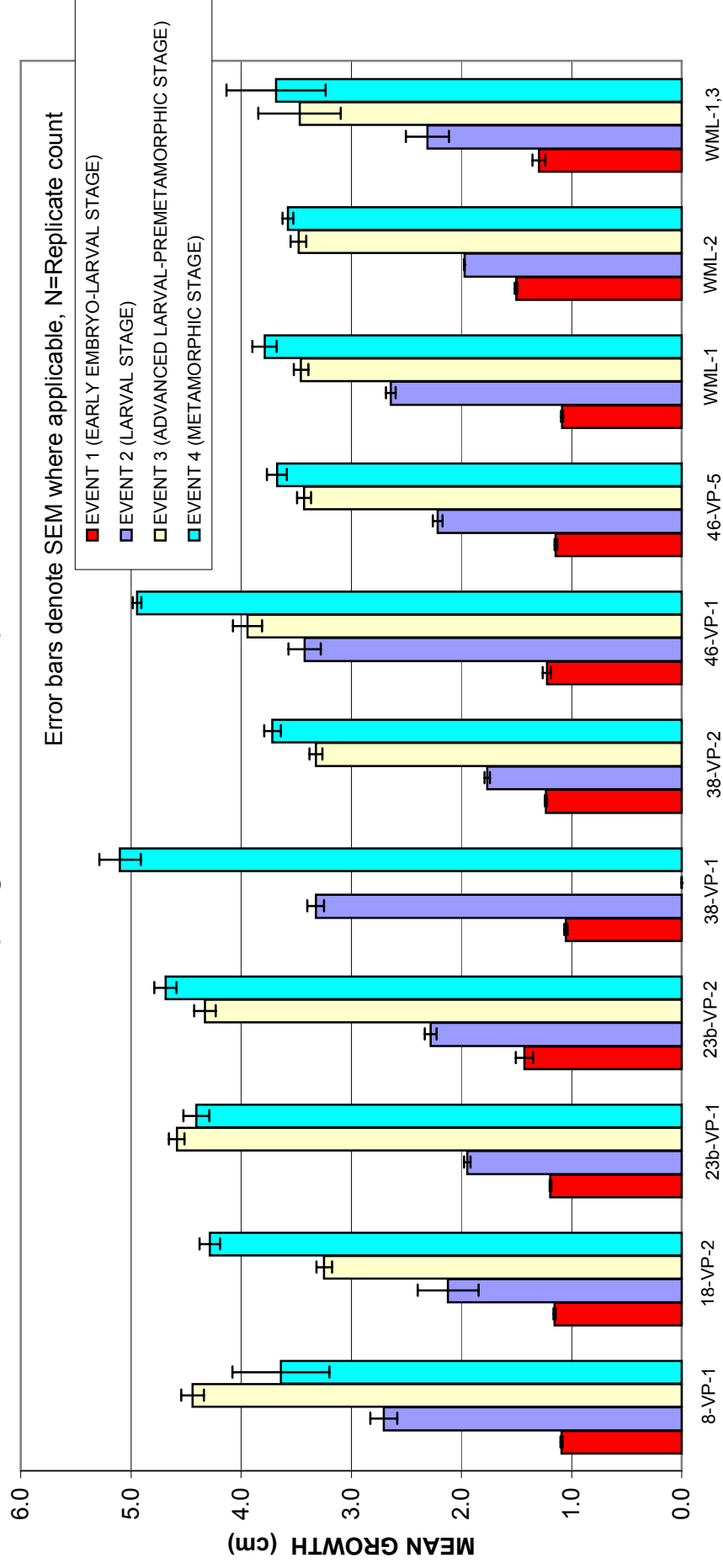


FIGURE 41
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE II LARVAL MALFORMATION DATA



SITE DESCRIPTION

FIGURE 42
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE II LARVAL GROWTH DATA
 (Length measured in cm)



SITE DESCRIPTION

FIGURE 43
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
8-VP-1 (14.5 mg/kg SEDIMENT PCB CONCENTRATION)

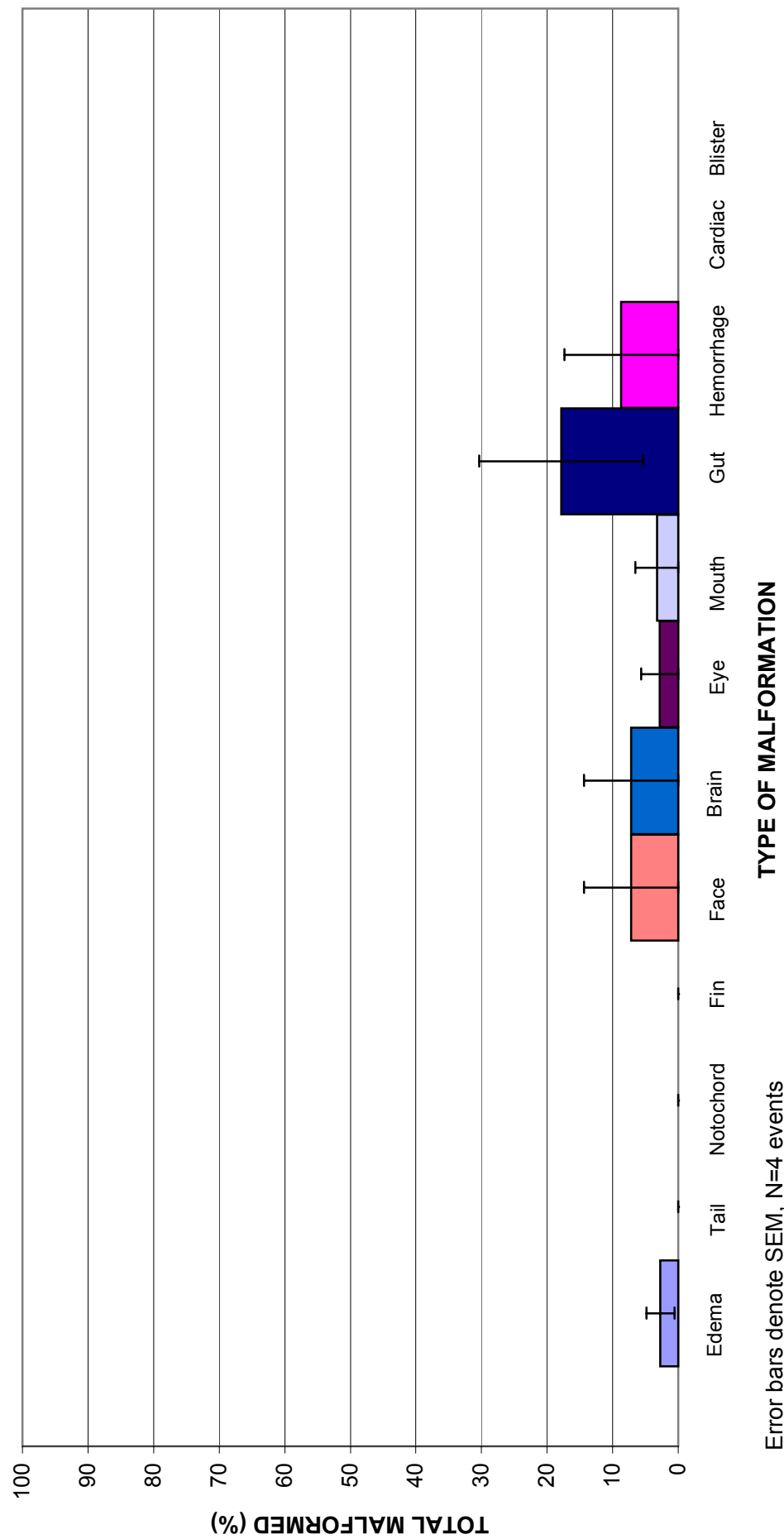


FIGURE 44
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
38-VP-2 (62.0 mg/kg SEDIMENT PCB CONCENTRATION)

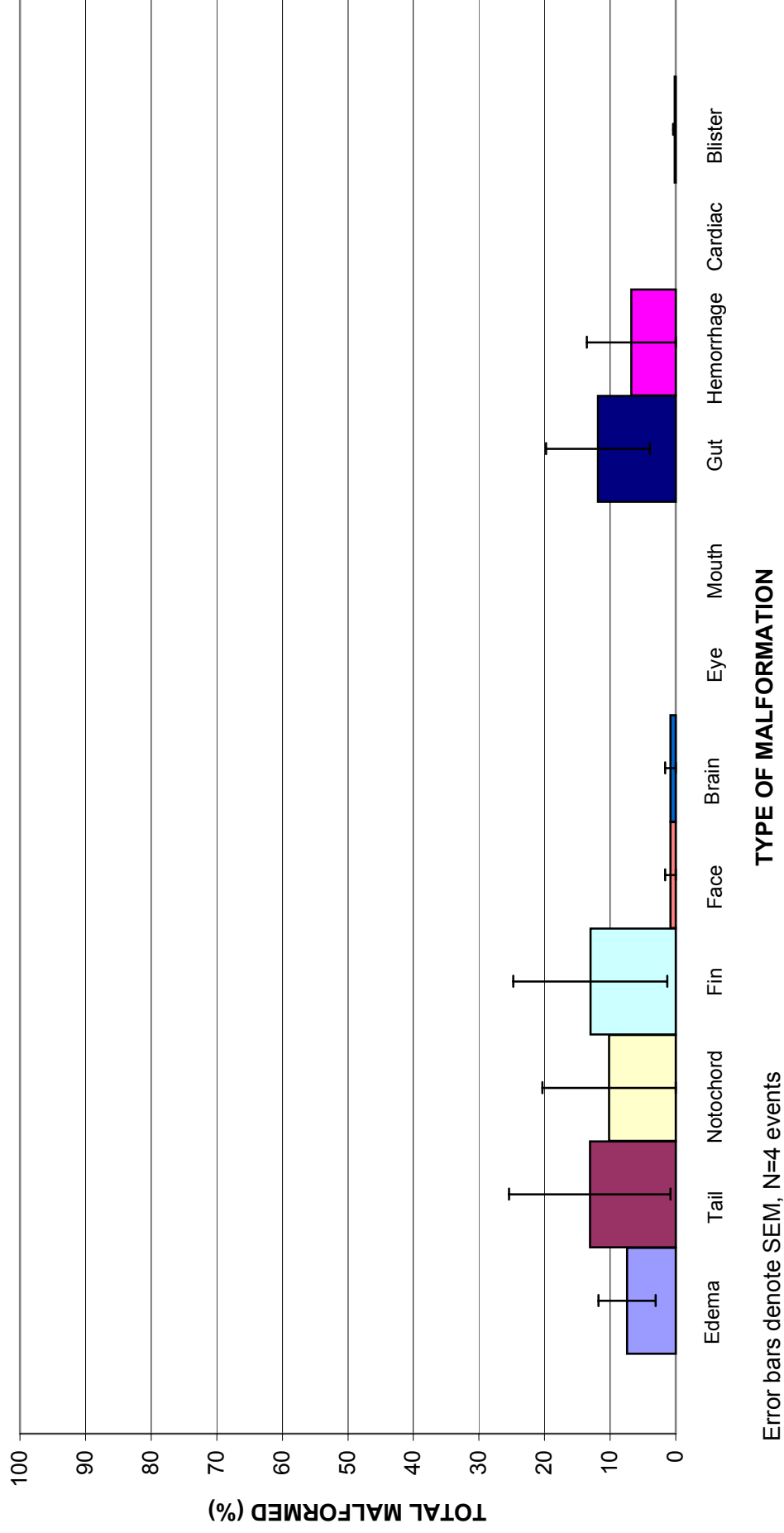


FIGURE 45
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
46-VP-5 (2.2 mg/kg SEDIMENT PCB CONCENTRATION)

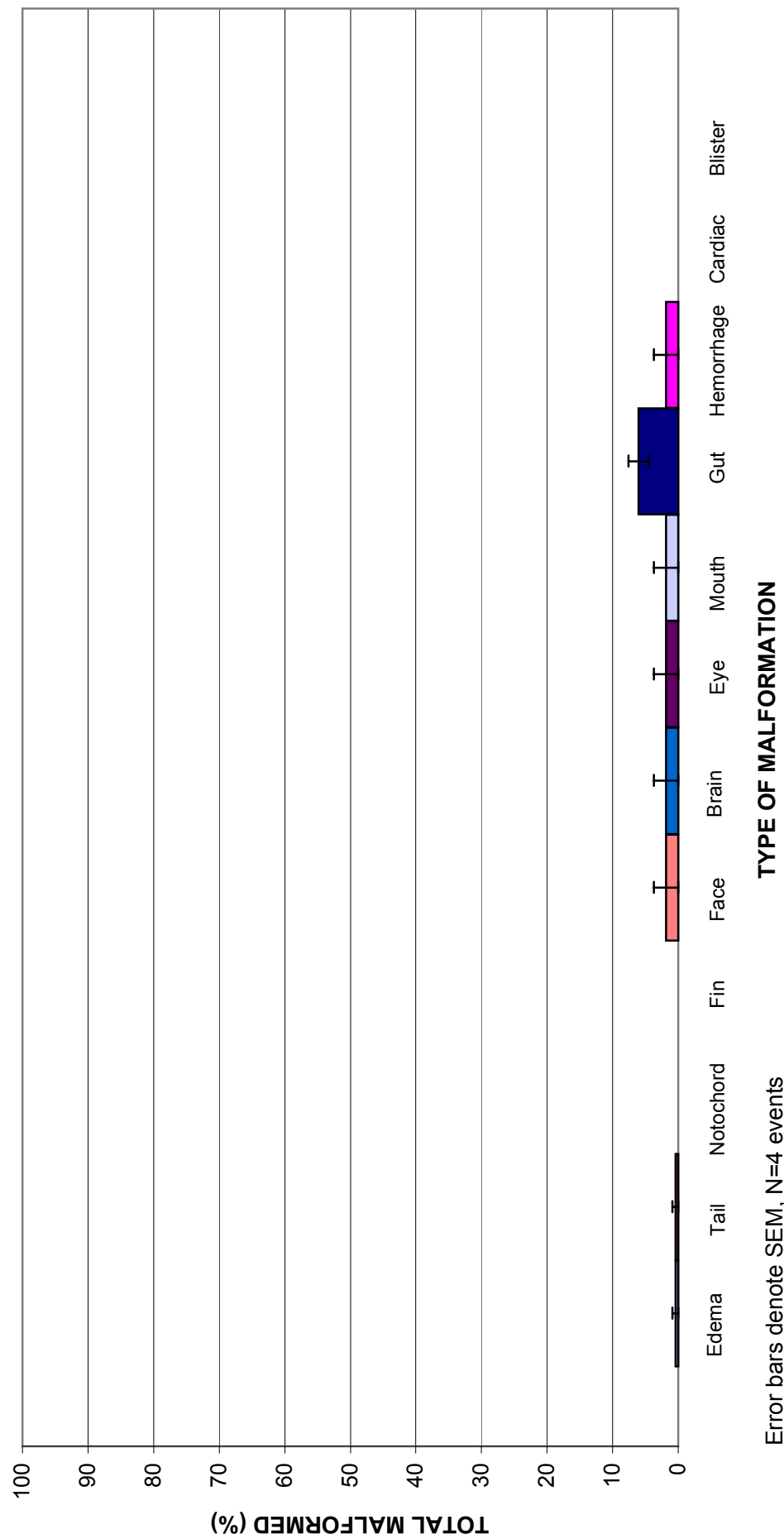


FIGURE 46
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
18-VP-2 (6.1 mg/kg SEDIMENT PCB CONCENTRATION)

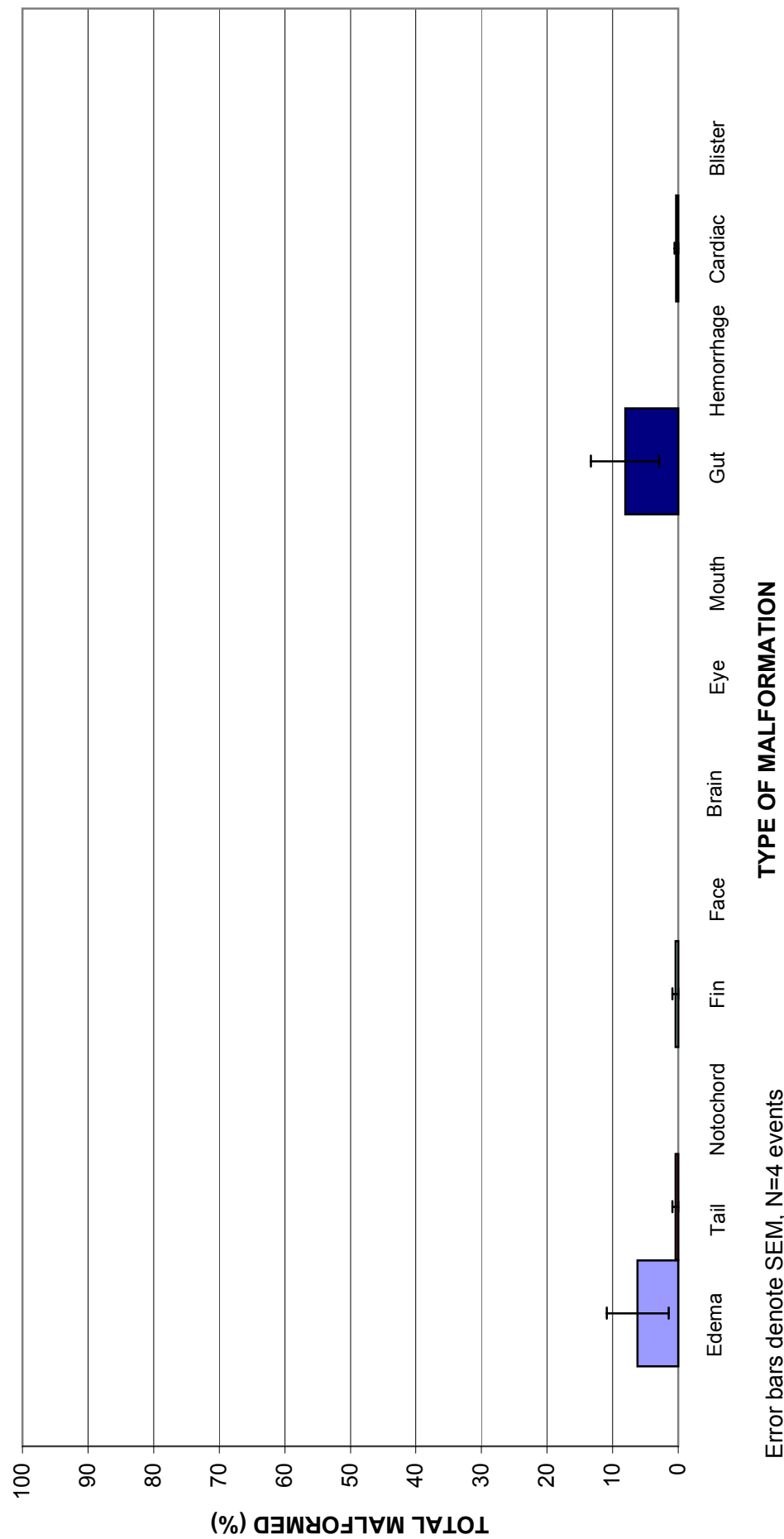


FIGURE 47
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
23b-VP-1 (0.19 mg/kg SEDIMENT PCB CONCENTRATION)

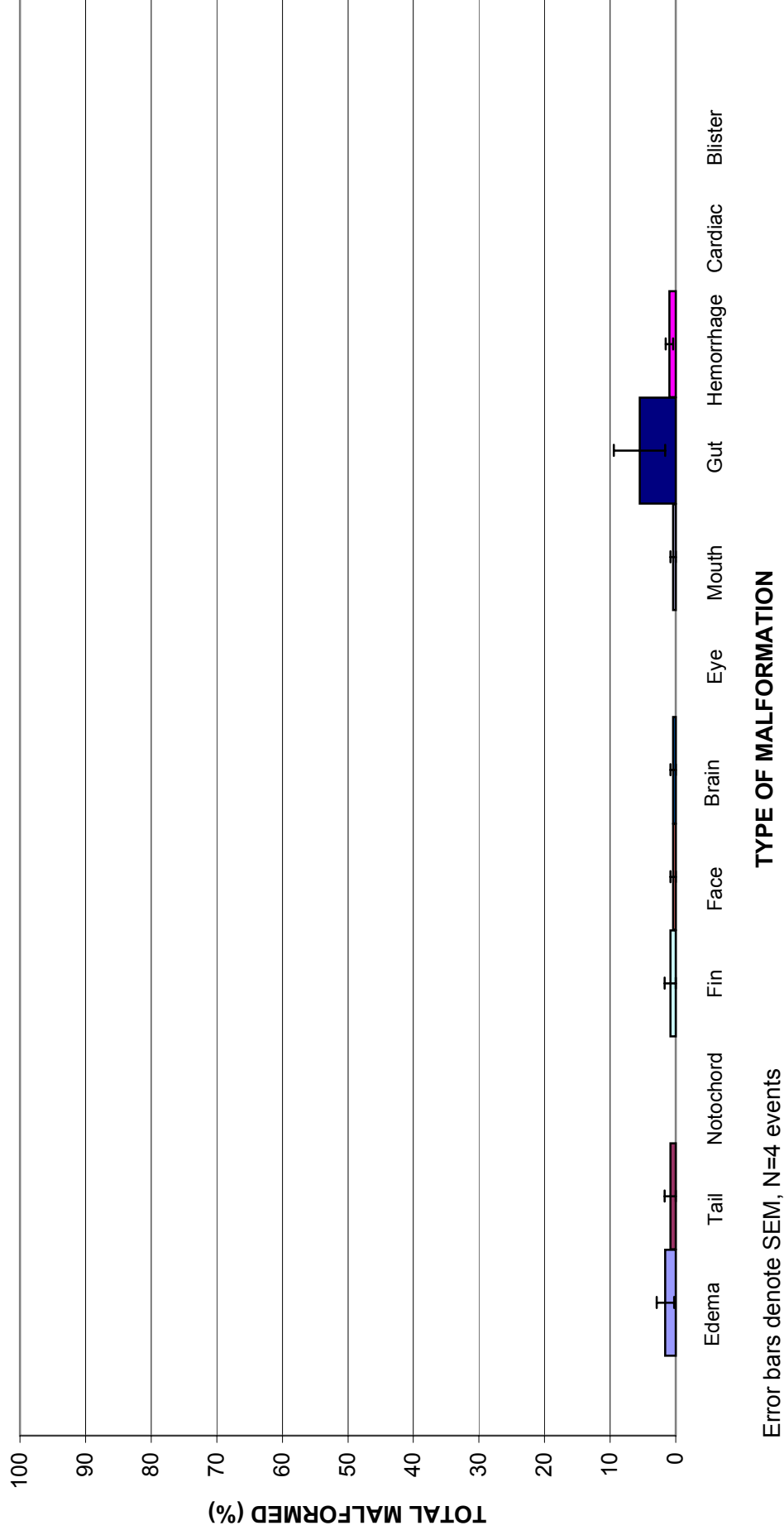


FIGURE 48
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
23b-VP-2 (0.11 mg/kg SEDIMENT PCB CONCENTRATION)

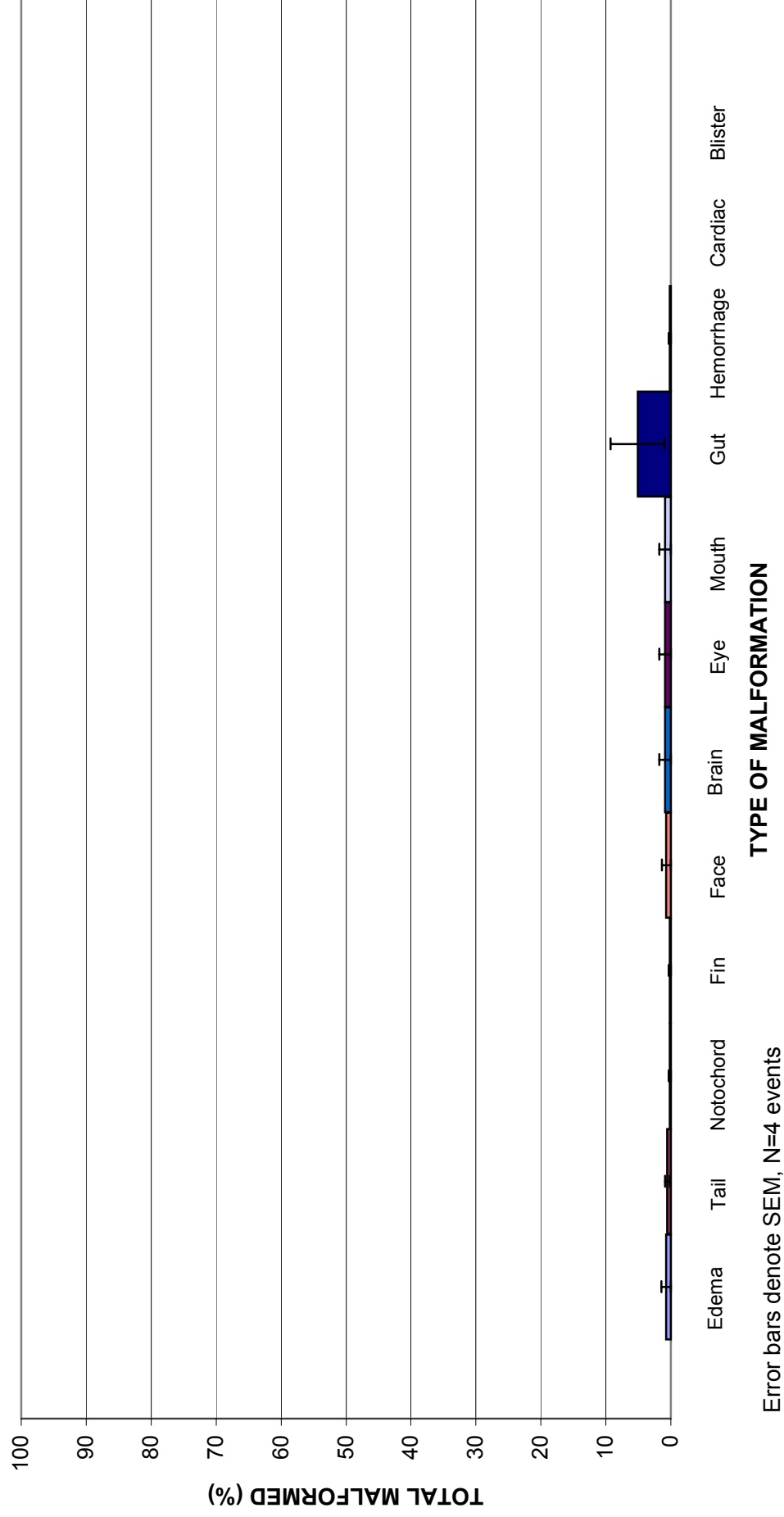


FIGURE 49
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
38-VP-1 (28.0 mg/kg SEDIMENT PCB CONCENTRATION)

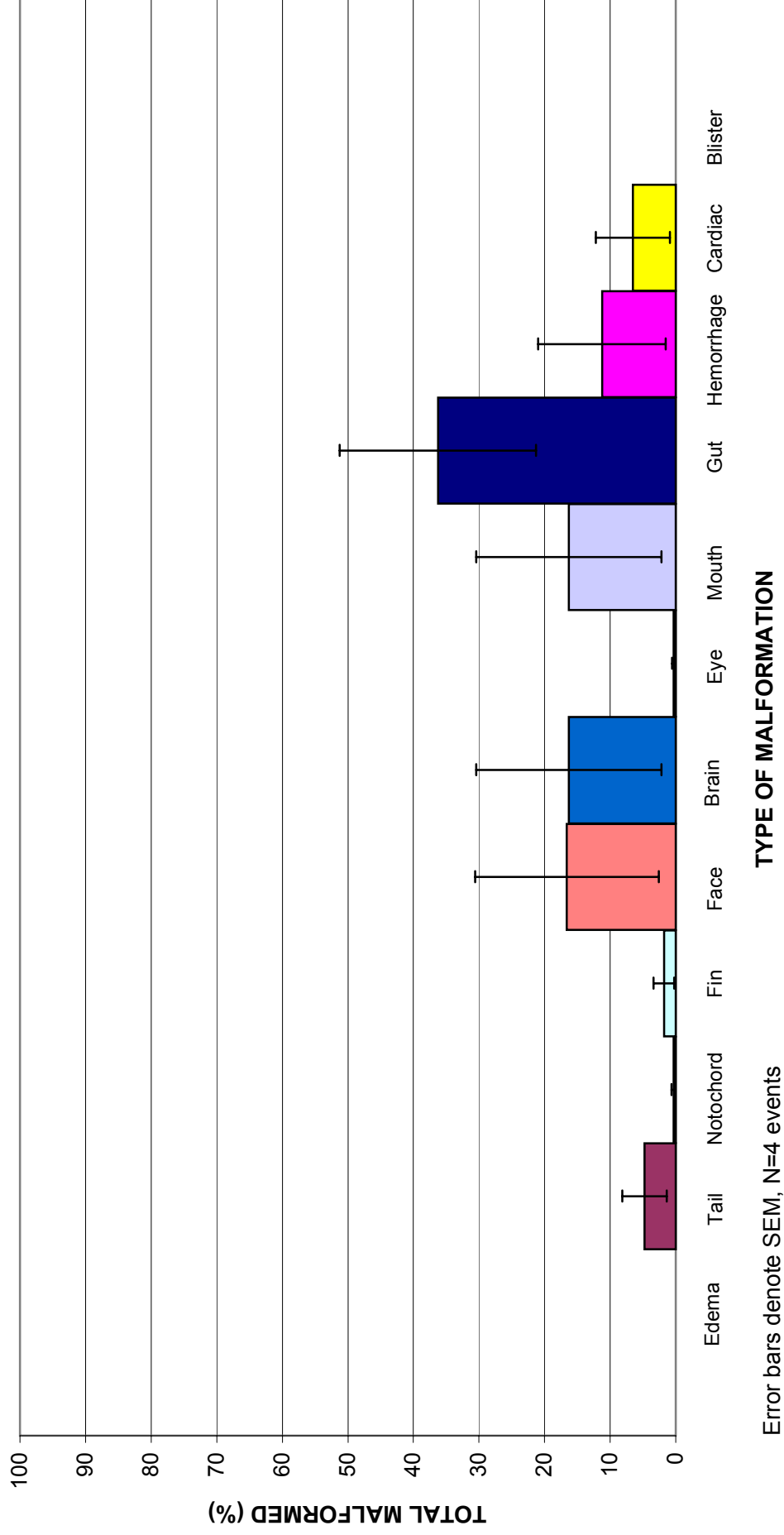


FIGURE 50
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
46-VP-1 (0.5 mg/kg SEDIMENT PCB CONCENTRATION)

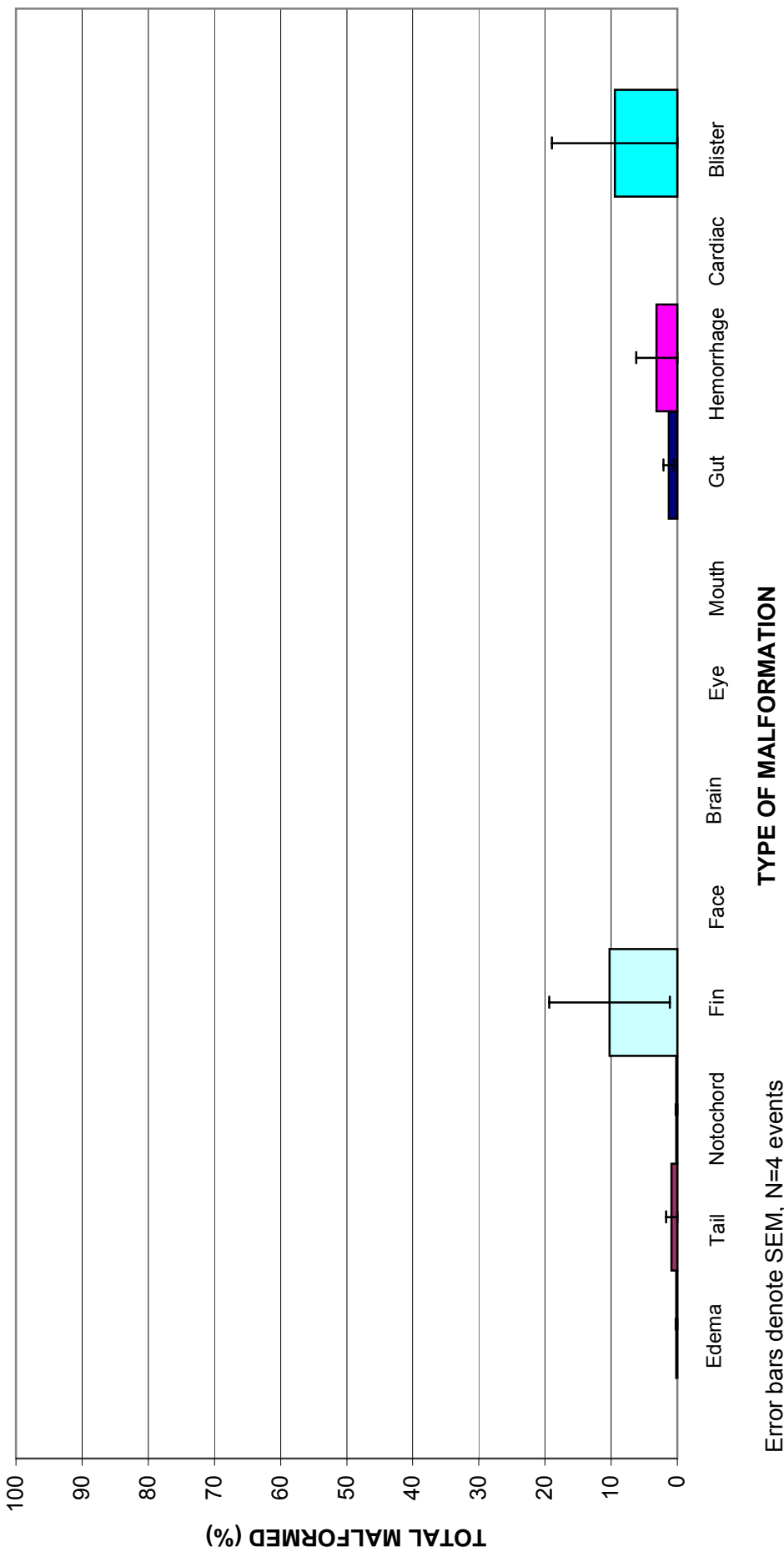


FIGURE 51
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TYPES OF MALFORMATION FOUND IN PHASE II
WML-1, 3 (0.01 mg/kg SEDIMENT PCB CONCENTRATION)

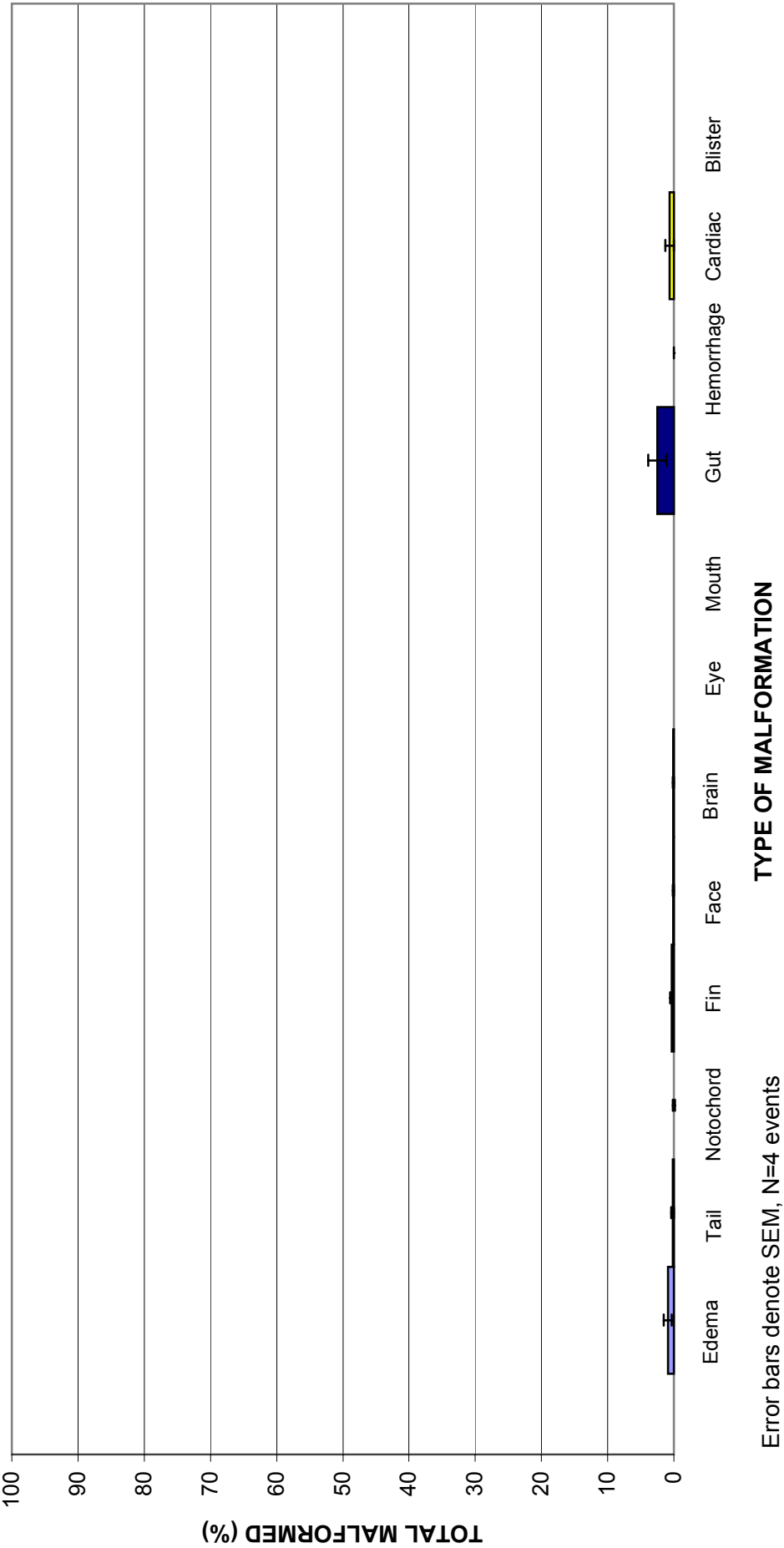
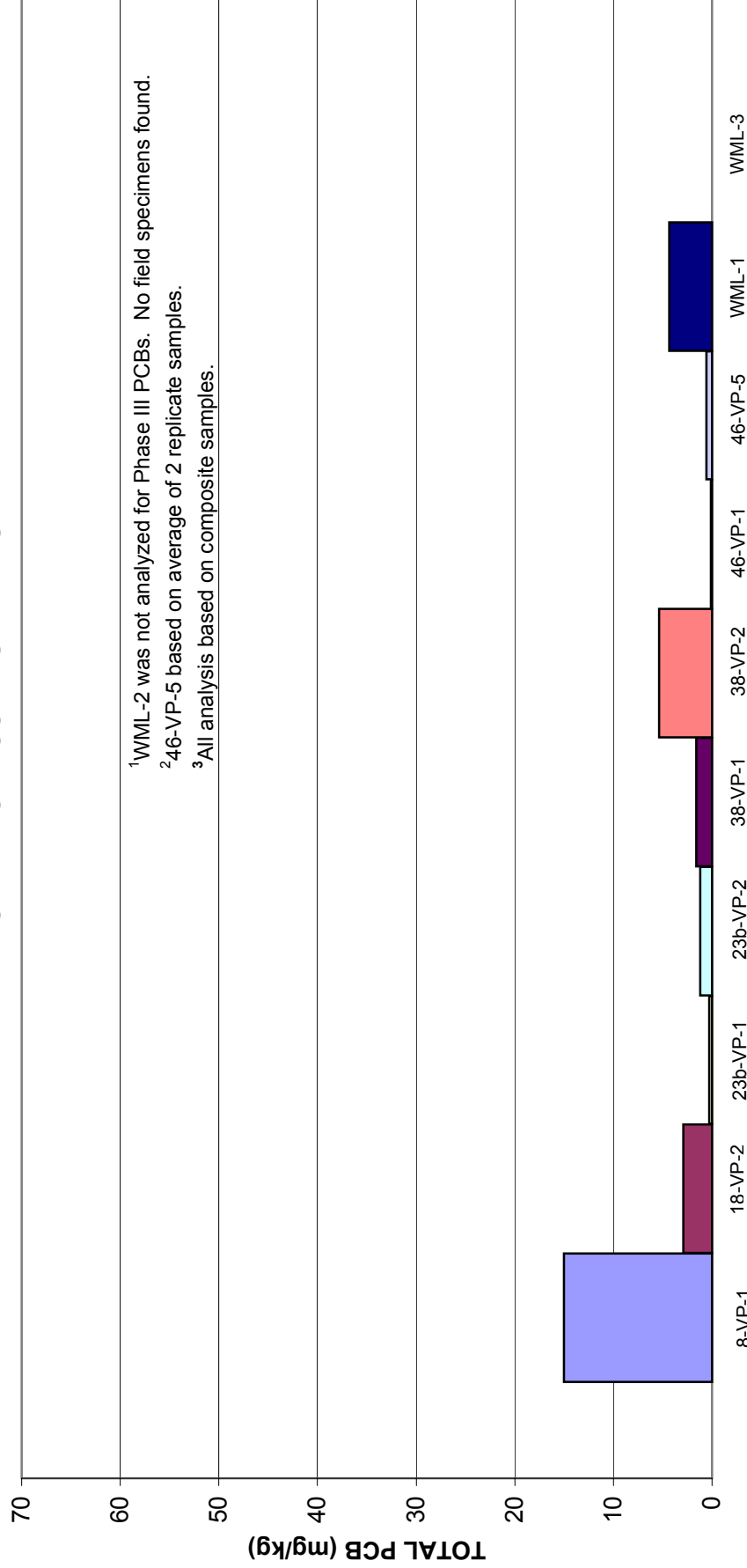


FIGURE 52
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III TOTAL PCB CONCENTRATIONS
METAMORPH COMPOSITE SAMPLES^{1,2,3}



¹WML-2 was not analyzed for Phase III PCBs. No field specimens found.
²46-VP-5 based on average of 2 replicate samples.
³All analysis based on composite samples.

SITE DESCRIPTION

FIGURE 53
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I AND PHASE III PCB COMPARISON
METAMORPH SAMPLES (Phase I Grab¹ vs Phase III Composite²)

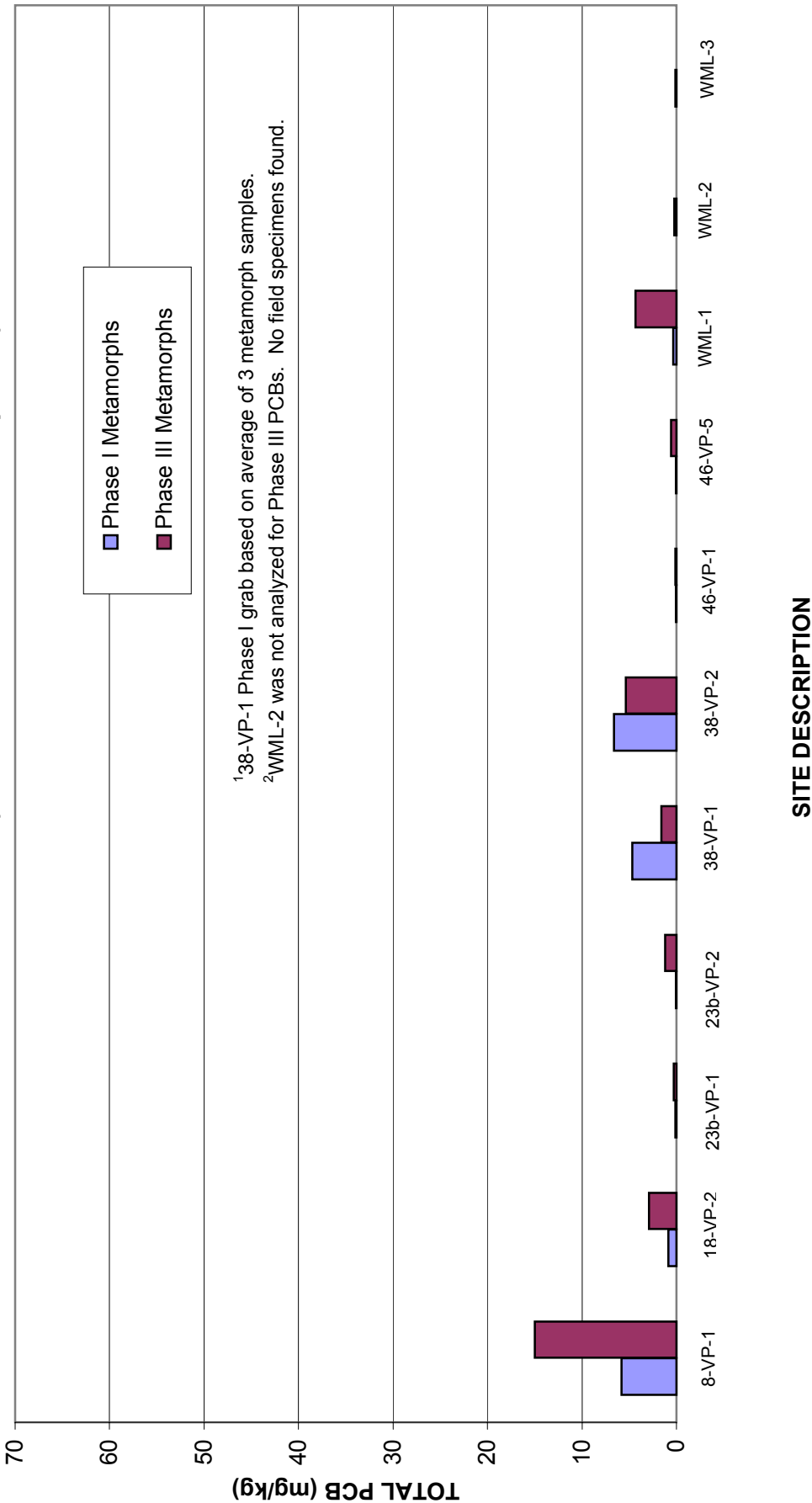


FIGURE 54
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH SEX RATIOS

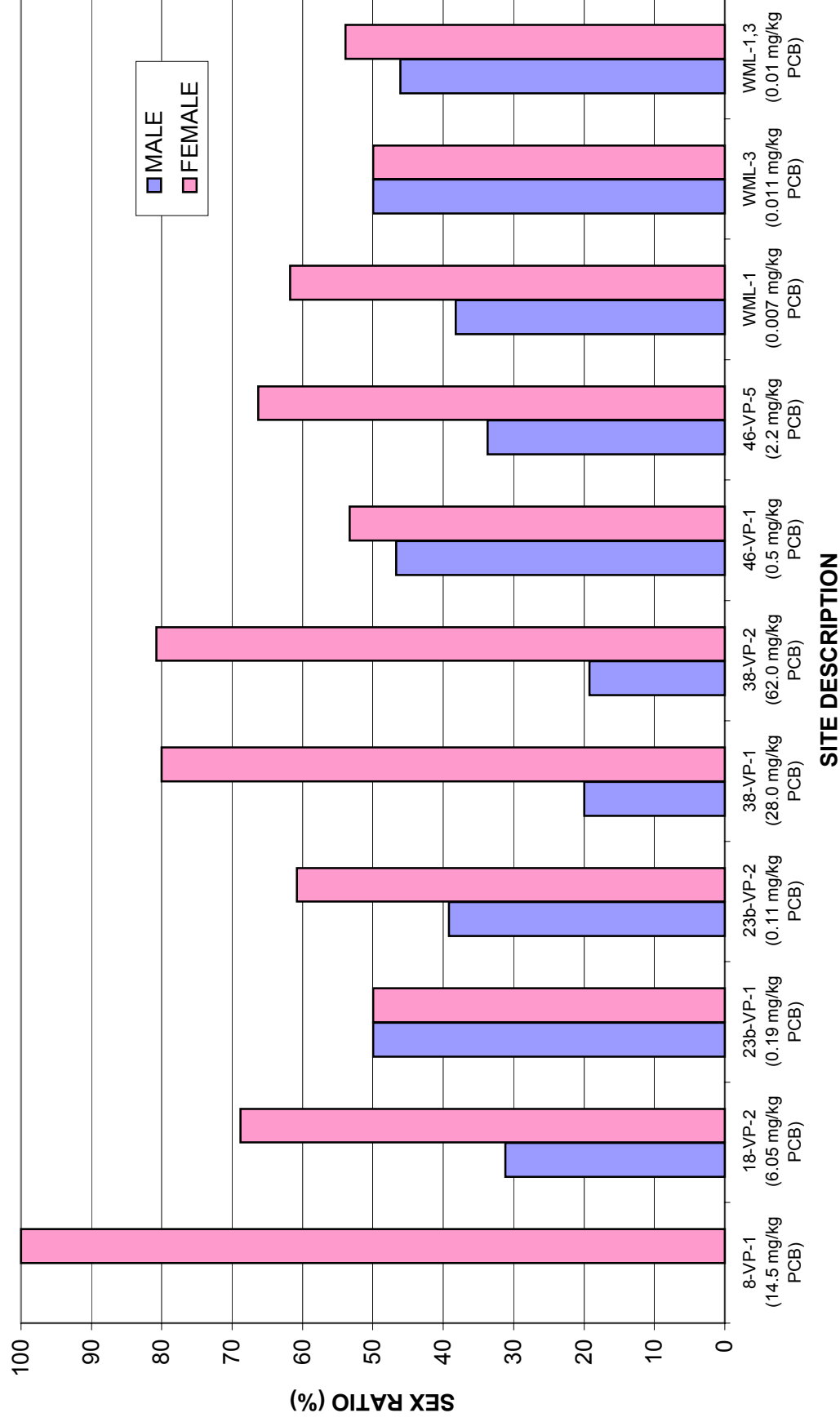


FIGURE 55
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH ABNORMALITIES BY SEX

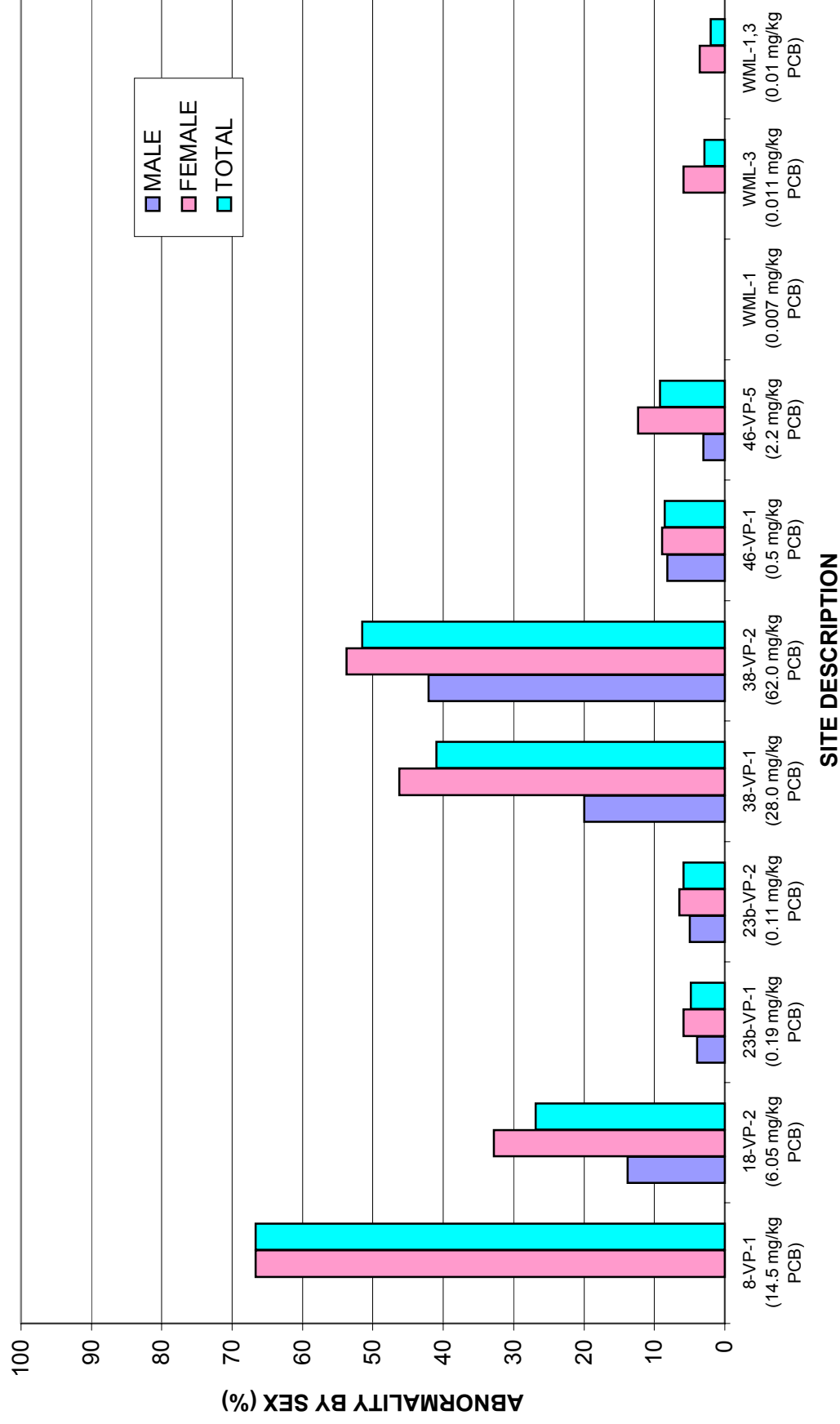
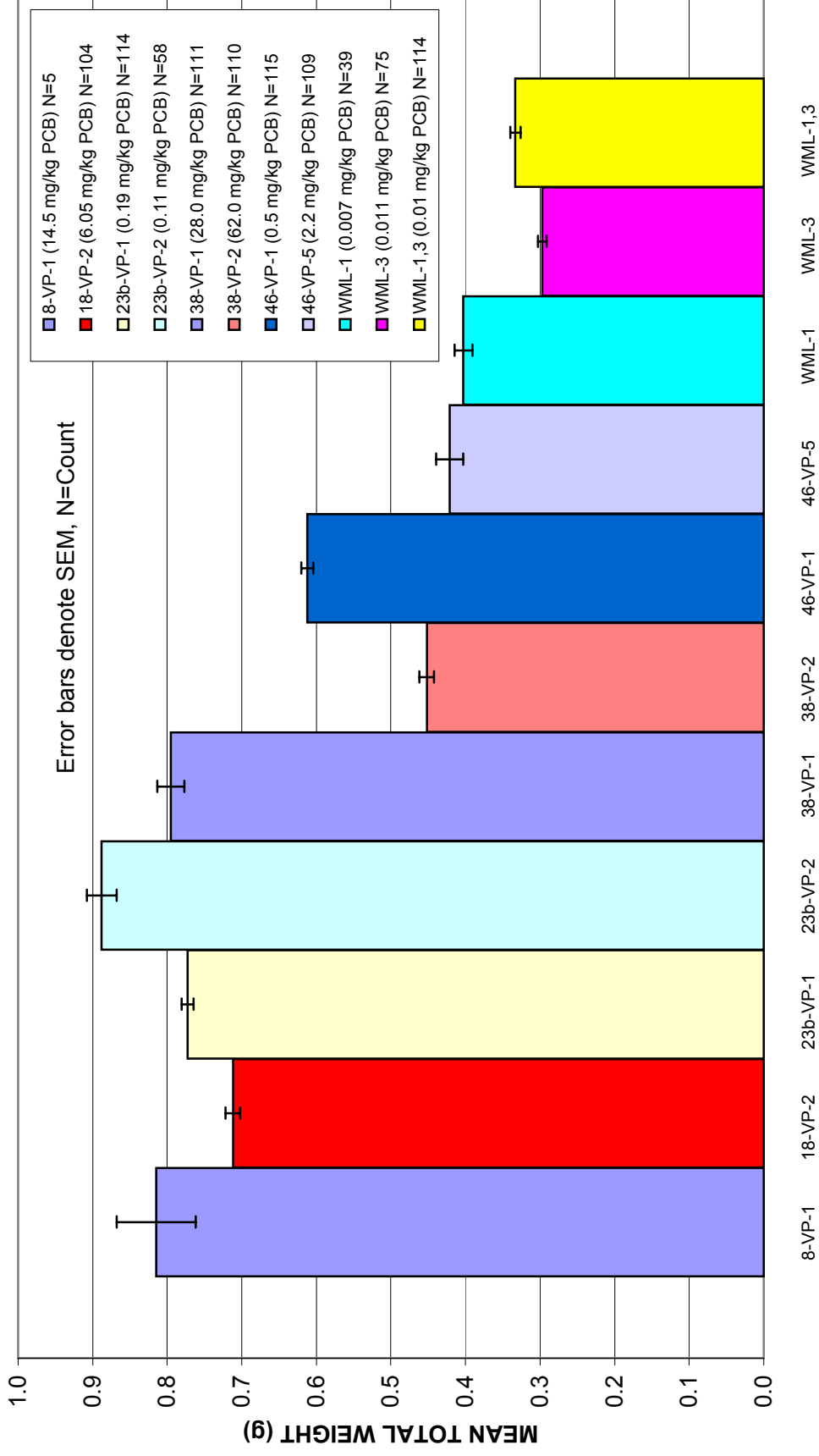


FIGURE 56
HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH WEIGHT DATA



SITE DESCRIPTION

Appendix A

Phase I – Water, Sediment, and Culture Sample Exposure Scenarios For Developmental, Crossover, And Spike Studies

***RANA sylvatica* VERNAL POOL STUDY 2000**
PHASE I DEVELOPMENTAL/CROSSOVER/SPIKE STUDY
SITE WATER/SEDIMENT/CULTURE EXPOSURE SCENARIO

Site Location		Sample Number		
Weston ID	Woodlot ID	Water	Sediment	Larval Culture
TA02RS20	8-VP-1	H2SW000040-0-0A05 (Rec'd 4/6, Added 4/7)	H2SE001255-0-0000 (Rec'd 4/6, Added 5/10)	H2TA02RS20-0-EM06
		H2SW000040-0-0A11 (Rec'd 4/12, Added 4/12)	227.4g sed/3L water	H2TA02RS20-0-EM07
		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)		H2TA02RS20-1-EM07
				H2TA02RS20-0-EM08
				H2TA02RS20-0-EM09
				H2TA02RS20-0-EM10
TA04RS27	18-VP-2	H3SW000038-0-0A04 (Rec'd 4/5, Added 4/7)	H3SE001254-0-0000 (Rec'd 4/5, Added 5/10)	H3TA04RS27-0-EM01
		H3SW000038-0-0A13 (Rec'd 4/14, Added 4/14)	274.8g sed/3L water	H3TA04RS27-1-EM01
		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)		H3TA04RS27-0-EM02
				H3TA04RS27-0-EM03
				H3TA04RS27-0-EM04
				H3TA04RS27-0-EM05
TA05RS28	23b-VP-1	H3SW000041-0-0A05 (Rec'd 4/6, Added 4/7)	H3SE001258-0-0000 (Rec'd 4/6, Added 5/12)	H3TA05RS28-0-EM01
		H3SW000041-0-0A12 (Rec'd 4/13, Added 4/13)	188.4g sed/3L water	H3TA05RS28-1-EM01
		H0SW000015-0-0Y01 (Rec'd 5/3, Added 5/3)		H3TA05RS28-0-EM02
				H3TA05RS28-0-EM03
				H3TA05RS28-0-EM04
				H3TA05RS28-0-EM05

***RANA sylvatica* VERNAL POOL STUDY 2000**
PHASE I DEVELOPMENTAL/CROSSOVER/SPIKE STUDY
SITE WATER/SEDIMENT/CULTURE EXPOSURE SCENARIO

Site Location		Sample Number	
Weston ID	Woodlot ID	Water	Larval Culture
TA05RS29	23b-VP-2	H3SW000042-0-0A05 (Rec'd 4/6, Added 4/7)	H3TA05RS29-0-EM01
		H3SW000042-0-0A12 (Rec'd 4/13, Added 4/13)	H3TA05RS29-1-EM01
		H0SW000015-0-0Y01 (Rec'd 5/3, Added 5/3)	H3TA05RS29-0-EM02
			H3TA05RS29-0-EM03
			H3TA05RS29-0-EM04
TA08RS30	38-VP-1		H3TA05RS29-0-EM05
		H3SW000037-0-0A04 (Rec'd 4/5, Added 4/6)	H3TA08RS30-0-EM01
		H3SW000037-0-0A11 (Rec'd 4/12, Added 4/12)	H3TA08RS30-0-EM02
		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)	H3TA08RS30-0-EM03
			H3TA08RS30-0-EM04
TA08RS21	38-VP-2		H3TA08RS30-0-EM05
		H3SW000039-0-0A05 (Rec'd 4/6, Added 4/8)	H3TA08RS21-0-EM06
		H3SW000039-0-0A11 (Rec'd 4/12, Added 4/12)	H3TA08RS21-1-EM06
		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)	H3TA08RS21-0-EM07
			H3TA08RS21-0-EM08
			H3TA08RS21-0-EM09
			H3TA08RS21-0-EM10

RANA sylvatica VERNAL POOL STUDY 2000
PHASE I DEVELOPMENTAL/CROSSOVER/SPIKE STUDY
SITE WATER/SEDIMENT/CULTURE EXPOSURE SCENARIO

Site Location		Sample Number	
		Water	Sediment
Weston ID	Woodlot ID		Larval Culture
TA08RS31	39-VP-1	H3SW000044-0-0A06	H3SE001262-0-0000 No Field Samples Collected
TA08RS32	46-VP-1	H3SW000043-0-0A06 (Rec'd 4/7, Added 4/8) H3SW000043-0-0A13 (Rec'd 4/14, Added 4/14) H3SW000043-0-0Y01 (Rec'd 5/3, Added 5/3)	H3SE001261-0-0000 (Rec'd 4/7, Added 5/4) 124.5g sed/3L water H3TA08RS32-0-EM01 H3TA08RS32-1-EM01 H3TA08RS32-0-EM02 H3TA08RS32-0-EM03 H3TA08RS32-0-EM04 H3TA08RS32-0-EM05
TA08RS22	46-VP-5	H3SW000036-0-0A03 (Rec'd 4/4, Added 4/4) H3SW000036-0-0A12 (Rec'd 4/13, Added 4/13) H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/4)	H3SE001263-0-0000 (Rec'd 4/4, Added 5/4) 219.6g sed/3L water H3TA08RS22-0-EM06 H3TA08RS22-0-EM07 H3TA08RS22-0-EM08 H3TA08RS22-0-EM09 H3TA08RS22-0-EM10 H3TA08RS22-1-EM10
TAWLRS41	WML-1	H9SW000045-0-0A10 (Rec'd 4/11, Added 4/12) H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	H9SE001259-0-0000 (Rec'd 4/11, Added 5/5) 226.2g sed/3L water H9TAWLRS41-0-EM01 H9TAWLRS41-0-EM02 H9TAWLRS41-0-EM03 H9TAWLRS41-0-EM04 H9TAWLRS41-0-EM05 H9TAWLRS41-1-EM05

***RANA sylvatica* VERNAL POOL STUDY 2000**
PHASE I DEVELOPMENTAL/CROSSOVER/SPIKE STUDY
SITE WATER/SEDIMENT/CULTURE EXPOSURE SCENARIO

Site Location		Sample Number		
Weston ID	Woodlot ID	Water	Sediment	Larval Culture
TAWLRS42	WML-2	H9SW000046-0-0A10 (Rec'd 4/11, Added 4/13)	H9SE001260-0-0000 (Rec'd 4/11, Added 5/5)	H9TAWLRS42-0-EM01
		H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	180.0g sed/3L water	H9TAWLRS42-0-EM02
				H9TAWLRS42-0-EM03
				H9TAWLRS42-0-EM04
				H9TAWLRS42-0-EM05
TAWLRS43	WML-3	H9SW000047-0-0A10 (Rec'd 4/11, Added 4/13)	H9SE001265-0-0000 (Rec'd 4/11, Added 5/8)	H9TAWLRS43-0-EM01
		H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	186.6g sed/3L water	H9TAWLRS43-0-EM02
				H9TAWLRS43-0-EM03
				H9TAWLRS43-0-EM04
				H9TAWLRS43-0-EM05
Crossover Study		H9SW000046-0-0A10 (Rec'd 4/11, Added 4/13)	H9SE001268-0-0000 (Rec'd 5/3, Added 5/9)	H3TA08RS21 Larval composite
TA08RS21 Larvae in	38-VP-2	H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	181.6g sed/3L water	
TAWLRS42 Water/Sediment	WML-2			

***RANA sylvatica* VERNAL POOL STUDY 2000**
PHASE I DEVELOPMENTAL/CROSSOVER/SPIKE STUDY
SITE WATER/SEDIMENT/CULTURE EXPOSURE SCENARIO

Site Location		Sample Number		
Weston ID	Woodlot ID	Water	Sediment	Larval Culture
Crossover Study				
TAWLRS42	WML-2	H3SW000039-0-0A11 (Rec'd 4/12, Added 4/20)	H3SE001267-0-0000 (Rec'd 5/3, Added 5/5)	H9TAWLRS42
Larvae in		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)	213.0g sed/3L water	Larval composite
TA08RS21	38-VP-2			
Water/Sediment				
Crossover Study				
TA08RS30	38-VP-1	H9SW000045-0-0A10 (Rec'd 4/11, Added 4/13)	H9SE001269-0-0000 (Rec'd 5/4, Added 5/9)	H3TA08RS30
Larvae in		H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	228.9g sed/3L water	Larval composite
TAWLRS41	WML-1			
Water/Sediment				
Crossover Study				
TAWLRS41	WML-1	H3SW000037-0-0A11 (Rec'd 4/12, Added 4/20)	H3SE001266-0-0000 (Rec'd 4/29, Added 5/5)	H9TAWLRS41
Larvae in		H2SW000008-0-0Y01 (Rec'd 5/3, Added 5/3)	232.2g sed/3L water	Larval composite
TA08RS30	38-VP-1			
Water/Sediment				
Spike Study				
TAWLRS43	WML-3	H9SW000047-0-0A10 (Rec'd 4/11, Added 4/13)	H9SE001270-0-0000 (Rec'd 5/4, Added 5/5)	H9TAWLRS43
		H9SW000045-0-0Y01 (Rec'd 5/3, Added 5/3)	165.9g sed /3L water Spiked w/Arochlor 1260 (30mg/kg sediment)	Larval composite

Appendix B

Chain-of-Custody Documentation For Field Samples (Electronic Copies Not Available At Time Of This Printing)

Chain-of-Custody Documentation For Tissue Samples

Tissue Samples

Chain-of-Custody Documentation

COC ID 2543

Chain of Custody Record



Client EPA

Contact Name

Kelly Spittler

Site Name Housatonic River Project

Contact Phone No.

610-701-3953

W.O.

Turn-around-Time

Laboratory GERG

Sampler

Woodlot Alt

Analysis Requested by Group by Container
(number listed for total containers per analysis group)

Preservative

Woodlot Alt

Lab Batch Number

Lab ID	Sample ID	Matrix		Total Num of Containers	Matrix	Date Collected	Duplicate Sample
		MS	MSD				
	H2-TA02RS20-0-MM08			1	TI	6-Jun-00	
	H3-TA08RS21-0-MM06			1	TI	22-Jun-00	
	[1] H3-TA08RS22-0-MM49			4	TI	42-Jun-00	
	H3-TA04RS27-0-MM05			1	TI	19-Jul-00	
	H3-TA05RS28-0-MM04			1	TI	5-Jun-00	
	H3-TA05RS29-0-MM02			1	TI	19-Jun-00	
	H3-TA08RS30-0-MM03			1	TI	30-May-00	
	H3-TA08RS30-0-MM05			1	TI	20-Jun-00	
	H3-TA08RS32-0-MM04			1	TI	2-Jun-00	
	H9-TAWLRS41-0-MM03			1	TI	8-Jun-00	
	H9-TAWLRS42-0-MM05			1	TI	26-Jun-00	
	H9-TAWLRS43-0-MM03			1	TI	8-Jun-00	
						22-Jun-00	

Field Remarks/Comments

Phase I Metamorph, Rana sylvatica
First priority for analysis are samples dated 5/18/00 to 5/30/00
Second priority for analysis are samples dated from 6/00 to 12/00
Third priority for analysis are samples dated from 1/00 to 5/15/00
[1]GERG could not find sample. Sent duplicate 6/4/01 (COC ID 2556). RR.

Lab Use Only

Temp of Cooler when Received, C°

1	2	3	4
---	---	---	---

Relinquished by	Received by	Date

COC Tape was present on outer package Y N
COC Tape was unbroken on outer package Y N
COC Tape was present on sample Y N
COC Tape was unbroken on sample Y N
Received in good condition Y N
Labels Indicate Property Preserved Y N
Received within Holding Time Y N

Relinquished by	Received by	Date	Time

Chain of Custody Record



Woodlot Ait

Analysis Requested by Group by Container
(number listed for total containers per analysis group)

Preservative

[illegible]

COC ID 2545

Chain of Custody Record



Client EPA

Contact Name

Kelly Spittler

Site Name Housatonic River Project

Contact Phone No.

610-701-3953

W.O.

Turn-around-Time

Laboratory GERG

Sampler

Woodlot Alt

Analysis Requested by Group by Container
(number listed for total containers per analysis group)

Preservative

Lab Batch Number

Lab ID	Sample ID	Matrix		Total Num of Containers	Matrix	Date Collected	Duplicate Sample	App. IX VOA	Aroclors	Homologs	Congeners	PCB	Herbicide	Dioxin/Furan	Appx. IX Metals	CN	Sulfide	TOC	Grain Size
		MS	MSD																
	H2-TA02RS20-0-TP08			1	TI	20-Apr-00						X							
	H2-TA02RS20-0-TP10			1	TI	2-Jun-00						X							
	H3-TA08RS21-0-TP12			1	TI	21-Apr-00						X							
	H3-TA08RS21-0-TP14			1	TI	1-Jun-00						X							
	H3-TA10RS22-0-TP15			1	TI	21-Apr-00						X							
	H3-TA10RS22-0-TP18			1	TI	2-Jun-00	x					X							
	H3-TA04RS27-0-TP01			1	TI	24-Apr-00						X							
	H3-TA04RS27-0-TP03			1	TI	31-May-00						X							
	H3-TA05RS28-0-TP01			1	TI	20-Apr-00						X							
	H3-TA05RS28-0-TP03			1	TI	1-Jun-00						X							
	H3-TA05RS29-0-TP01			1	TI	20-Apr-00						X							
	H3-TA05RS29-0-TP03			1	TI	1-Jun-00						X							
	H3-TA08RS30-0-TP01			1	TI	21-Apr-00						X							
	H3-TA08RS30-0-TP03			1	TI	22-Jun-00						X							
	H3-TA08RS32-0-TP01			1	TI	24-Apr-00						X							

Field Remarks/Comments

Phase II Tadpoles, Rana sylvatica

First priority for analysis are samples dated

5/18/00 to 5/30/00

Second priority for analysis are samples dated

from 6/00 to 12/00

Third priority for analysis are samples dated from

1/00 to 5/15/00

Lab Use Only

Temp of Cooler when Received, C°

1	2	3	4
---	---	---	---

Relinquished by

Received by

Date

Time

Relinquished by

Received by

Date

Time

COC Tape was present on outer package

COC Tape was unbroken on outer package

COC Tape was present on sample

COC Tape was unbroken on sample

Received in good condition

Labels indicate Properly Preserved

Received within Holding Time

Chain of Custody Record



Kelly Spittler

Contact Phone No.

Turn-around-Time

Sampler

100

[illegible][illegible]

Chain of Custody Record



Lab Batch Number

[illegible]

Appendix C

Phase I – Specimens Inventory List

Randomization Charts

Developmental Data

Crossover Data

Spike Data

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 1	20	H2-TA02RS20-0-EM06	7542-003	SPENT EGG MASS
	20	H2-TA02RS20-0-EM06	7542-003	EGG MASS SECTION
	20	H2-TA02RS20-0-EM06	7542-003	LARVAE
	20	H2-TA02RS20-0-EM06	7542-003	TADPOLES
	20	H2-TA02RS20-0-EM06	7542-003	FROGLETS
Bag 2	20	H2-TA02RS20-0-EM07	7542-004	SPENT EGG MASS
	20	H2-TA02RS20-0-EM07	7542-004	EGG MASS SECTION
	20	H2-TA02RS20-0-EM07	7542-004	LARVAE
	20	H2-TA02RS20-0-EM07	7542-004	TADPOLES
	20	H2-TA02RS20-0-EM07	7542-004	FROGLETS
Bag 3	20	H2-TA02RS20-1-EM07	7542-005	SPENT EGG MASS
	20	H2-TA02RS20-1-EM07	7542-005	EGG MASS SECTION
	20	H2-TA02RS20-1-EM07	7542-005	LARVAE
	20	H2-TA02RS20-1-EM07	7542-005	TADPOLES
	20	H2-TA02RS20-1-EM07	7542-005	FROGLETS
Bag 4	20	H2-TA02RS20-0-EM08	7542-006	SPENT EGG MASS
	20	H2-TA02RS20-0-EM08	7542-006	EGG MASS SECTION
	20	H2-TA02RS20-0-EM08	7542-006	LARVAE
	20	H2-TA02RS20-0-EM08	7542-006	TADPOLES
	20	H2-TA02RS20-0-EM08	7542-006	FROGLETS
Bag 5	20	H2-TA02RS20-0-EM09	7542-007	SPENT EGG MASS
	20	H2-TA02RS20-0-EM09	7542-007	EGG MASS SECTION
	20	H2-TA02RS20-0-EM09	7542-007	LARVAE
	20	H2-TA02RS20-0-EM09	7542-007	TADPOLES
	20	H2-TA02RS20-0-EM09	7542-007	FROGLETS
Bag 6	20	H2-TA02RS20-0-EM10	7542-008	SPENT EGG MASS
	20	H2-TA02RS20-0-EM10	7542-008	EGG MASS SECTION
	20	H2-TA02RS20-0-EM10	7542-008	LARVAE
	20	H2-TA02RS20-0-EM10	7542-008	TADPOLES
	20	H2-TA02RS20-0-EM10	7542-008	FROGLETS

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 8	21	H3-TA08RS21-0-EM06	7539-001	SPENT EGG MASS
	21	H3-TA08RS21-0-EM06	7539-001	LARVAE
	21	H3-TA08RS21-0-EM06	7539-001	TADPOLES
	21	H3-TA08RS21-0-EM06	7539-001	FROGLET
Bag 9	21	H3-TA08RS21-1-EM06	7539-002	SPENT EGG MASS
	21	H3-TA08RS21-1-EM06	7539-002	EGG MASS SECTION
	21	H3-TA08RS21-1-EM06	7539-002	LARVAE
	21	H3-TA08RS21-1-EM06	7539-002	TADPOLES
	21	H3-TA08RS21-1-EM06	7539-002	FROGLET
Bag 10	21	H3-TA08RS21-0-EM07	7539-003	SPENT EGG MASS
	21	H3-TA08RS21-0-EM07	7539-003	LARVAE
	21	H3-TA08RS21-0-EM07	7539-003	TADPOLES
	21	H3-TA08RS21-0-EM07	7539-003	FROGLET
Bag 11	21	H3-TA08RS21-0-EM08	7539-004	SPENT EGG MASS
	21	H3-TA08RS21-0-EM08	7539-004	EGG MASS SECTION
	21	H3-TA08RS21-0-EM08	7539-004	LARVAE
	21	H3-TA08RS21-0-EM08	7539-004	TADPOLES
	21	H3-TA08RS21-0-EM08	7539-004	FROGLET
Bag 12	21	H3-TA08RS21-0-EM09	7539-005	SPENT EGG MASS
	21	H3-TA08RS21-0-EM09	7539-005	EGG MASS SECTION
	21	H3-TA08RS21-0-EM09	7539-005	LARVAE
	21	H3-TA08RS21-0-EM09	7539-005	TADPOLES
	21	H3-TA08RS21-0-EM09	7539-005	FROGLET
Bag 13	21	H3-TA08RS21-0-EM10	7539-006	SPENT EGG MASS
	21	H3-TA08RS21-0-EM10	7539-006	EGG MASS SECTION
	21	H3-TA08RS21-0-EM10	7539-006	LARVAE
	21	H3-TA08RS21-0-EM10	7539-006	FROGLET
Bag 14	21	H3-TA08RS21	CROSSOVER	TADPOLES
	21	H3-TA08RS21	CROSSOVER	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 15	22	H3-TA08RS22-0-EM06	7527-001	SPENT EGG MASS
	22	H3-TA08RS22-0-EM06	7527-001	SPENT EGG MASS
	22	H3-TA08RS22-0-EM06	7527-001	EGG MASS SECTION
	22	H3-TA08RS22-0-EM06	7527-001	LARVAE
	22	H3-TA08RS22-0-EM06	7527-001	TADPOLES
	22	H3-TA08RS22-0-EM06	7527-001	FROGLET
Bag 16	22	H3-TA08RS22-0-EM07	7527-002	SPENT EGG MASS
	22	H3-TA08RS22-0-EM07	7527-002	SPENT EGG MASS
	22	H3-TA08RS22-0-EM07	7527-002	EGG MASS SECTION
	22	H3-TA08RS22-0-EM07	7527-002	LARVAE
	22	H3-TA08RS22-0-EM07	7527-002	TADPOLES
	22	H3-TA08RS22-0-EM07	7527-002	FROGLET
Bag 17	22	H3-TA08RS22-0-EM08	7527-003	SPENT EGG MASS
	22	H3-TA08RS22-0-EM08	7527-003	LARVAE
	22	H3-TA08RS22-0-EM08	7527-003	TADPOLES
	22	H3-TA08RS22-0-EM08	7527-003	FROGLET
Bag 18	22	H3-TA08RS22-0-EM09	7527-004	SPENT EGG MASS
	22	H3-TA08RS22-0-EM09	7527-004	EGG MASS SECTION
	22	H3-TA08RS22-0-EM09	7527-004	LARVAE
	22	H3-TA08RS22-0-EM09	7527-004	TADPOLES
	22	H3-TA08RS22-0-EM09	7527-004	FROGLET
Bag 19	22	H3-TA08RS22-0-EM10	7527-005	SPENT EGG MASS
	22	H3-TA08RS22-0-EM10	7527-005	EGG MASS SECTION
	22	H3-TA08RS22-0-EM10	7527-005	LARVAE
	22	H3-TA08RS22-0-EM10	7527-005	TADPOLES
	22	H3-TA08RS22-0-EM10	7527-005	FROGLET
Bag 20	22	H3-TA08RS22-1-EM10	7527-006	SPENT EGG MASS
	22	H3-TA08RS22-1-EM10	7527-006	EGG MASS SECTION
	22	H3-TA08RS22-1-EM10	7527-006	LARVAE
	22	H3-TA08RS22-1-EM10	7527-006	TADPOLES
	22	H3-TA08RS22-1-EM10	7527-006	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 22	27	H3-TA04RS27-0-EM01	7535-003	SPENT EGG MASS
	27	H3-TA04RS27-0-EM01	7535-003	EGG MASS SECTION
	27	H3-TA04RS27-0-EM01	7535-003	LARVAE
	27	H3-TA04RS27-0-EM01	7535-003	TADPOLES
Bag 23	27	H3-TA04RS27-1-EM01	7535-004	SPENT EGG MASS
	27	H3-TA04RS27-1-EM01	7535-004	EGG MASS SECTION
Bag 24	27	H3-TA04RS27-0-EM02	7535-005	SPENT EGG MASS
	27	H3-TA04RS27-0-EM02	7535-005	EGG MASS SECTION
	27	H3-TA04RS27-0-EM02	7535-005	LARVAE
	27	H3-TA04RS27-0-EM02	7535-005	TADPOLES
	27	H3-TA04RS27-0-EM02	7535-005	FROGLETS
Bag 25	27	H3-TA04RS27-0-EM03	7535-006	SPENT EGG MASS
	27	H3-TA04RS27-0-EM03	7535-006	EGG MASS SECTION
	27	H3-TA04RS27-0-EM03	7535-006	LARVAE
	27	H3-TA04RS27-0-EM03	7535-006	TADPOLES
	27	H3-TA04RS27-0-EM03	7535-006	FROGLETS
Bag 26	27	H3-TA04RS27-0-EM04	7535-007	SPENT EGG MASS
	27	H3-TA04RS27-0-EM04	7535-007	EGG MASS SECTION
	27	H3-TA04RS27-0-EM04	7535-007	LARVAE
	27	H3-TA04RS27-0-EM04	7535-007	TADPOLES
	27	H3-TA04RS27-0-EM04	7535-007	TADPOLES
Bag 27	27	H3-TA04RS27-0-EM05	7535-008	SPENT EGG MASS
	27	H3-TA04RS27-0-EM05	7535-008	EGG MASS SECTION
	27	H3-TA04RS27-0-EM05	7535-008	LARVAE
	27	H3-TA04RS27-0-EM05	7535-008	TADPOLES
	27	H3-TA04RS27-0-EM05	7535-008	FROGLETS

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 29	28	H3-TA05RS28-0-EM01	7540-001	SPENT EGG MASS
	28	H3-TA05RS28-0-EM01	7540-001	LARVAE
	28	H3-TA05RS28-0-EM01	7540-001	TADPOLES
	28	H3-TA05RS28-0-EM01	7540-001	TADPOLES
	28	H3-TA05RS28-0-EM01	7540-001	FROGLET
Bag 30	28	H3-TA05RS28-1-EM01	7540-002	SPENT EGG MASS
	28	H3-TA05RS28-1-EM01	7540-002	EGG MASS SECTION
	28	H3-TA05RS28-1-EM01	7540-002	LARVAE
	28	H3-TA05RS28-1-EM01	7540-002	TADPOLES
	28	H3-TA05RS28-1-EM01	7540-002	TADPOLES
Bag 31	28	H3-TA05RS28-0-EM02	7540-003	SPENT EGG MASS
	28	H3-TA05RS28-0-EM02	7540-003	EGG MASS SECTION
	28	H3-TA05RS28-0-EM02	7540-003	LARVAE
	28	H3-TA05RS28-0-EM02	7540-003	TADPOLES
Bag 32	28	H3-TA05RS28-0-EM03	7540-004	SPENT EGG MASS
	28	H3-TA05RS28-0-EM03	7540-004	EGG MASS SECTION
	28	H3-TA05RS28-0-EM03	7540-004	TADPOLES
	28	H3-TA05RS28-0-EM03	7540-004	FROGLET
Bag 33	28	H3-TA05RS28-0-EM04	7540-005	SPENT EGG MASS
	28	H3-TA05RS28-0-EM04	7540-005	EGG MASS SECTION
	28	H3-TA05RS28-0-EM04	7540-005	LARVAE
	28	H3-TA05RS28-0-EM04	7540-005	TADPOLES
	28	H3-TA05RS28-0-EM04	7540-005	FROGLET
	28	H3-TA05RS28-0-EM04	7540-005	FROGLET
Bag 34	28	H3-TA05RS28-0-EM05	7540-006	SPENT EGG MASS
	28	H3-TA05RS28-0-EM05	7540-006	EGG MASS SECTION
	28	H3-TA05RS28-0-EM05	7540-006	LARVAE
	28	H3-TA05RS28-0-EM05	7540-006	TADPOLES
	28	H3-TA05RS28-0-EM05	7540-006	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 36	29	H3-TA05RS29-0-EM01	7541-001	SPENT EGG MASS
	29	H3-TA05RS29-0-EM01	7541-001	SPENT EGG MASS
	29	H3-TA05RS29-0-EM01	7541-001	EGG MASS SECTION
	29	H3-TA05RS29-0-EM01	7541-001	LARVAE
	29	H3-TA05RS29-0-EM01	7541-001	TADPOLES
Bag 37	29	H3-TA05RS29-1-EM01	7541-002	SPENT EGG MASS
	29	H3-TA05RS29-1-EM01	7541-002	EGG MASS SECTION
	29	H3-TA05RS29-1-EM01	7541-002	LARVAE
	29	H3-TA05RS29-1-EM01	7541-002	TADPOLES
	29	H3-TA05RS29-1-EM01	7541-002	FROGLET
Bag 38	29	H3-TA05RS29-0-EM02	7541-003	SPENT EGG MASS
	29	H3-TA05RS29-0-EM02	7541-003	EGG MASS SECTION
	29	H3-TA05RS29-0-EM02	7541-003	LARVAE
	29	H3-TA05RS29-0-EM02	7541-003	TADPOLES
	29	H3-TA05RS29-0-EM02	7541-003	FROGLET
Bag 39	29	H3-TA05RS29-0-EM03	7541-004	TADPOLES
	29	H3-TA05RS29-0-EM03	7541-004	FROGLET
Bag 40	29	H3-TA05RS29-0-EM04	7541-005	SPENT EGG MASS
	29	H3-TA05RS29-0-EM04	7541-005	SPENT EGG MASS
	29	H3-TA05RS29-0-EM04	7541-005	EGG MASS SECTION
	29	H3-TA05RS29-0-EM04	7541-005	FROGLET
Bag 41	29	H3-TA05RS29-0-EM05	7541-006	SPENT EGG MASS
	29	H3-TA05RS29-0-EM05	7541-006	LARVAE
	29	H3-TA05RS29-0-EM05	7541-006	TADPOLES
	29	H3-TA05RS29-0-EM05	7541-006	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 43	30	H3-TA08RS30-0-EM01	7533-001	SPENT EGG MASS
	30	H3-TA08RS30-0-EM01	7533-001	EGG MASS SECTION
	30	H3-TA08RS30-0-EM01	7533-001	LARVAE
	30	H3-TA08RS30-0-EM01	7533-001	TADPOLES
	30	H3-TA08RS30-0-EM01	7533-001	FROGLET
Bag 44	30	H3-TA08RS30-0-EM02	7533-002	SPENT EGG MASS
	30	H3-TA08RS30-0-EM02	7533-002	EGG MASS SECTION
	30	H3-TA08RS30-0-EM02	7533-002	LARVAE
	30	H3-TA08RS30-0-EM02	7533-002	TADPOLES
	30	H3-TA08RS30-0-EM02	7533-002	FROGLET
Bag 45	30	H3-TA08RS30-0-EM03	7533-003	SPENT EGG MASS
	30	H3-TA08RS30-0-EM03	7533-003	EGG MASS SECTION
	30	H3-TA08RS30-0-EM03	7533-003	LARVAE
	30	H3-TA08RS30-0-EM03	7533-003	TADPOLES
	30	H3-TA08RS30-0-EM03	7533-003	FROGLET
Bag 46	30	H3-TA08RS30-0-EM04	7533-004	SPENT EGG MASS
	30	H3-TA08RS30-0-EM04	7533-004	EGG MASS SECTION
	30	H3-TA08RS30-0-EM04	7533-004	LARVAE
	30	H3-TA08RS30-0-EM04	7533-004	TADPOLES
	30	H3-TA08RS30-0-EM04	7533-004	FROGLET
Bag 47	30	H3-TA08RS30-0-EM05	7533-005	SPENT EGG MASS
	30	H3-TA08RS30-0-EM05	7533-005	EGG MASS SECTION
	30	H3-TA08RS30-0-EM05	7533-005	LARVAE
	30	H3-TA08RS30-0-EM05	7533-005	TADPOLES
	30	H3-TA08RS30-0-EM05	7533-005	FROGLET
Bag 48	30	H3-TA08RS30-1-EM05	7533-006	SPENT EGG MASS
	30	H3-TA08RS30-1-EM05	7533-006	LARVAE
	30	H3-TA08RS30-1-EM05	7533-006	TADPOLES
	30	H3-TA08RS30-1-EM05	7533-006	FROGLET
Bag 49	30	H3-TA08RS30	CROSSOVER	TADPOLES
	30	H3-TA08RS30	CROSSOVER	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 50	32	H3-TA08RS32-0-EM01	7545-001	SPENT EGG MASS
	32	H3-TA08RS32-0-EM01	7545-001	LARVAE
	32	H3-TA08RS32-0-EM01	7545-001	TADPOLE
	32	H3-TA08RS32-0-EM01	7545-001	TADPOLE
Bag 51	32	H3-TA08RS32-1-EM01	7545-002	SPENT EGG MASS
	32	H3-TA08RS32-1-EM01	7545-002	EGG MASS SECTION
	32	H3-TA08RS32-1-EM01	7545-002	LARVAE
	32	H3-TA08RS32-1-EM01	7545-002	TADPOLES
	32	H3-TA08RS32-1-EM01	7545-002	FROGLET
Bag 52	32	H3-TA08RS32-0-EM02	7545-003	SPENT EGG MASS
	32	H3-TA08RS32-0-EM02	7545-003	EGG MASS SECTION
	32	H3-TA08RS32-0-EM02	7545-003	LARVAE
	32	H3-TA08RS32-0-EM02	7545-003	TADPOLES
	32	H3-TA08RS32-0-EM02	7545-003	TADPOLES
	32	H3-TA08RS32-0-EM02	7545-003	FROGLET
Bag 53	32	H3-TA08RS32-0-EM03	7545-004	SPENT EGG MASS
	32	H3-TA08RS32-0-EM03	7545-004	EGG MASS SECTION
	32	H3-TA08RS32-0-EM03	7545-004	LARVAE
	32	H3-TA08RS32-0-EM03	7545-004	TADPOLES
	32	H3-TA08RS32-0-EM03	7545-004	FROGLET
Bag 54	32	H3-TA08RS32-0-EM04	7545-005	SPENT EGG MASS
	32	H3-TA08RS32-0-EM04	7545-005	EGG MASS SECTION
	32	H3-TA08RS32-0-EM04	7545-005	LARVAE
	32	H3-TA08RS32-0-EM04	7545-005	TADPOLES
	32	H3-TA08RS32-0-EM04	7545-005	FROGLET
Bag 55	32	H3-TA08RS32-0-EM05	7545-006	SPENT EGG MASS
	32	H3-TA08RS32-0-EM05	7545-006	LARVAE
	32	H3-TA08RS32-0-EM05	7545-006	TADPOLES
	32	H3-TA08RS32-0-EM05	7545-006	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 57	41	H9-TAWLRS41-0-EM01	7554-001	SPENT EGG MASS
	41	H9-TAWLRS41-0-EM01	7554-001	EGG MASS SECTION
	41	H9-TAWLRS41-0-EM01	7554-001	LARVAE
	41	H9-TAWLRS41-0-EM01	7554-001	TADPOLES
	41	H9-TAWLRS41-0-EM01	7554-001	FROGLETS
Bag 58	41	H9-TAWLRS41-0-EM02	7554-002	SPENT EGG MASS
	41	H9-TAWLRS41-0-EM02	7554-002	EGG MASS SECTION
	41	H9-TAWLRS41-0-EM02	7554-002	LARVAE
	41	H9-TAWLRS41-0-EM02	7554-002	TADPOLES
	41	H9-TAWLRS41-0-EM02	7554-002	FROGLETS
Bag 59	41	H9-TAWLRS41-0-EM03	7554-003	SPENT EGG MASS
	41	H9-TAWLRS41-0-EM03	7554-003	EGG MASS SECTION
	41	H9-TAWLRS41-0-EM03	7554-003	LARVAE
	41	H9-TAWLRS41-0-EM03	7554-003	TADPOLES
	41	H9-TAWLRS41-0-EM03	7554-003	FROGLETS
Bag 60	41	H9-TAWLRS41-0-EM04	7554-004	SPENT EGG MASS
	41	H9-TAWLRS41-0-EM04	7554-004	EGG MASS SECTION
	41	H9-TAWLRS41-0-EM04	7554-004	LARVAE
	41	H9-TAWLRS41-0-EM04	7554-004	TADPOLES
	41	H9-TAWLRS41-0-EM04	7554-004	FROGLETS
Bag 61	41	H9-TAWLRS41-0-EM05	7554-005	SPENT EGG MASS
	41	H9-TAWLRS41-0-EM05	7554-005	EGG MASS SECTION
	41	H9-TAWLRS41-0-EM05	7554-005	LARVAE
	41	H9-TAWLRS41-0-EM05	7554-005	TADPOLES
	41	H9-TAWLRS41-0-EM05	7554-005	FROGLETS
Bag 62	41	H9-TAWLRS41-1-EM05	7554-006	SPENT EGG MASS
	41	H9-TAWLRS41-1-EM05	7554-006	EGG MASS SECTION
	41	H9-TAWLRS41-1-EM05	7554-006	TADPOLES
	41	H9-TAWLRS41-1-EM05	7554-006	FROGLETS
Bag 63	41	H9-TAWLRS41	CROSSOVER	TADPOLES
	41	H9-TAWLRS41	CROSSOVER	FROGLETS

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 64	42	H9-TAWLRS42-0-EM01	7555-001	SPENT EGG MASS
	42	H9-TAWLRS42-0-EM01	7555-001	EGG MASS SECTION
	42	H9-TAWLRS42-0-EM01	7555-001	LARVAE
	42	H9-TAWLRS42-0-EM01	7555-001	TADPOLES
	42	H9-TAWLRS42-0-EM01	7555-001	FROGLET
Bag 65	42	H9-TAWLRS42-0-EM02	7555-002	SPENT EGG MASS
	42	H9-TAWLRS42-0-EM02	7555-002	EGG MASS SECTION
	42	H9-TAWLRS42-0-EM02	7555-002	LARVAE
	42	H9-TAWLRS42-0-EM02	7555-002	TADPOLES
	42	H9-TAWLRS42-0-EM02	7555-002	FROGLET
Bag 66	42	H9-TAWLRS42-0-EM03	7555-003	SPENT EGG MASS
	42	H9-TAWLRS42-0-EM03	7555-003	EGG MASS SECTION
	42	H9-TAWLRS42-0-EM03	7555-003	LARVAE
	42	H9-TAWLRS42-0-EM03	7555-003	TADPOLES
	42	H9-TAWLRS42-0-EM03	7555-003	FROGLET
Bag 67	42	H9-TAWLRS42-0-EM04	7555-004	SPENT EGG MASS
	42	H9-TAWLRS42-0-EM04	7555-004	EGG MASS SECTION
	42	H9-TAWLRS42-0-EM04	7555-004	LARVAE
	42	H9-TAWLRS42-0-EM04	7555-004	TADPOLES
	42	H9-TAWLRS42-0-EM04	7555-004	FROGLET
Bag 68	42	H9-TAWLRS42-0-EM05	7555-005	SPENT EGG MASS
	42	H9-TAWLRS42-0-EM05	7555-005	EGG MASS SECTION
	42	H9-TAWLRS42-0-EM05	7555-005	TADPOLES
	42	H9-TAWLRS42-0-EM05	7555-005	FROGLET
Bag 69	42	H9-TAWLRS42-1-EM05	7555-006	SPENT EGG MASS
	42	H9-TAWLRS42-1-EM05	7555-006	EGG MASS SECTION
	42	H9-TAWLRS42-1-EM05	7555-006	LARVAE
	42	H9-TAWLRS42-1-EM05	7555-006	TADPOLES
	42	H9-TAWLRS42-1-EM05	7555-006	FROGLET
Bag 70	42	H9-TAWLRS42	CROSSOVER	TADPOLES
	42	H9-TAWLRS42	CROSSOVER	FROGLET

**WESTON VERNAL POOL STUDY 2000
FREEZER TISSUE INVENTORY
PHASE I SAMPLES**

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description
Bag 71	43	H9-TAWLRS43-0-EM01	7557-001	SPENT EGG MASS
	43	H9-TAWLRS43-0-EM01	7557-001	EGG MASS SECTION
	43	H9-TAWLRS43-0-EM01	7557-001	LARVAE
	43	H9-TAWLRS43-0-EM01	7557-001	TADPOLES
	43	H9-TAWLRS43-0-EM01	7557-001	FROGLETS
Bag 72	43	H9-TAWLRS43-0-EM02	7557-002	SPENT EGG MASS
	43	H9-TAWLRS43-0-EM02	7557-002	EGG MASS SECTION
	43	H9-TAWLRS43-0-EM02	7557-002	LARVAE
	43	H9-TAWLRS43-0-EM02	7557-002	TADPOLES
	43	H9-TAWLRS43-0-EM02	7557-002	FROGLETS
Bag 73	43	H9-TAWLRS43-0-EM03	7557-003	SPENT EGG MASS
	43	H9-TAWLRS43-0-EM03	7557-003	EGG MASS SECTION
	43	H9-TAWLRS43-0-EM03	7557-003	LARVAE
	43	H9-TAWLRS43-0-EM03	7557-003	TADPOLES
	43	H9-TAWLRS43-0-EM03	7557-003	FROGLETS
Bag 74	43	H9-TAWLRS43-0-EM04	7557--04	SPENT EGG MASS
	43	H9-TAWLRS43-0-EM04	7557--04	EGG MASS SECTION
	43	H9-TAWLRS43-0-EM04	7557--04	LARVAE
	43	H9-TAWLRS43-0-EM04	7557--04	TADPOLES
	43	H9-TAWLRS43-0-EM04	7557--04	FROGLETS
Bag 75	43	H9-TAWLRS43-0-EM05	7557-005	SPENT EGG MASS
	43	H9-TAWLRS43-0-EM05	7557-005	EGG MASS SECTION
	43	H9-TAWLRS43-0-EM05	7557-005	LARVAE
	43	H9-TAWLRS43-0-EM05	7557-005	TADPOLES
	43	H9-TAWLRS43-0-EM05	7557-005	FROGLETS
Bag 76	43	H9-TAWLRS43-1-EM05	7557-006	SPENT EGG MASS
	43	H9-TAWLRS43-1-EM05	7557-006	EGG MASS SECTION
	43	H9-TAWLRS43-1-EM05	7557-006	LARVAE
	43	H9-TAWLRS43-1-EM05	7557-006	TADPOLES
	43	H9-TAWLRS43-1-EM05	7557-006	FROGLETS
Bag 77	43	H9-TAWLRS43	SPIKE STUDY	FROGLETS

Phase I

Randomization Charts:

General Chart

Development Study Chart

Crossover Study Chart

Spike Study Chart

Housatonic River Project General Randomization Chart ¹

Rack 1	T7-01-2	T4-01-3	R3-06-4	T7-01-4	T5-04-1	R2-04-1	T4-05-1
	-	-	T1-02-3	R1-03-2	T1-04-2	T5-06-3	T6-06-2
	T5-02-1	T4-04-4	T2-06-2	R1-01-4	T6-01-1	T3-02-1	R2-02-2
Rack 2	R1-02-4	R1-03-1	T6-01-2	T2-05-4	T3-04-4	T6-05-1	T2-01-1
	R2-01-2	T4-01-1	R3-06-3	R2-01-4	T1-01-3	-	T6-05-4
	T3-03-1	R2-06-1	T4-06-1	T3-06-2	T7-01-1	R1-04-1	T8-06-4
Rack 3	-	T5-06-2	R2-02-1	T6-05-2	T5-01-1	T6-05-3	T6-06-1
	R3-01-1	T3-04-3	T5-03-2	-	T8-05-2	-	-
	T7-06-2	R3-05-1	T2-05-1	R3-05-2	T5-04-2	T8-01-2	T1-02-1
Rack 4	R2-04-2	T1-04-3	R1-04-2	T4-04-2	T8-05-1	T4-05-3	T8-04-1
	T4-05-2	T3-02-2	T2-01-2	T6-01-3	R2-06-3	-	T7-03-1
	T2-02-3	R3-01-2	T4-02-1	T4-01-2	T8-01-1	R3-02-1	-
Rack 5	T7-03-2	T2-06-1	T8-05-3	T1-01-1	T3-06-3	-	R1-01-1
	-	R2-01-3	-	T2-01-4	R2-06-4	T7-02-1	T2-02-4
	T8-02-2	T2-05-2	T5-06-4	T1-06-2	T4-04-3	-	R1-05-1
Rack 6	T8-04-4	T5-01-2	R3-05-4	R2-02-3	T7-01-3	T7-06-3	T4-01-4
	T1-02-2	R2-04-3	T3-02-3	T1-01-2	T6-01-4	R3-02-2	T3-02-4
	-	T5-03-3	R2-01-1	T5-04-3	T3-03-2	-	T5-03-4
Rack 7	T4-02-2	T1-05-1	T2-02-1	T5-01-3	T1-04-4	T7-02-2	T1-01-4
	R3-01-4	T7-03-4	T2-05-3	R3-02-3	T8-04-2	T8-01-3	T7-03-3
	T3-03-4	T3-06-4	R3-05-3	-	T4-05-4	-	T7-02-3
Rack 8	-	R3-01-3	T2-01-3	R2-04-4	T7-06-4	R1-04-4	-
	R1-05-4	T3-05-1	T1-05-2	T7-02-4	T3-03-3	T2-01-1	R1-01-2
	-	-	-	T8-04-3	-	-	-
Rack 9	T8-03-1	-	-	T2-02-2	-	-	-
	R1-05-2	R1-06-1	T2-04-2	R1-03-3	R1-01-3	T8-06-3	T7-04-3
	T3-01-4	R1-03-4	T1-06-1	T7-04-2	R1-05-3	T3-04-2	-
Rack 10	T1-03-4	T5-02-4	-	-	T8-03-3	-	T4-02-3
	T7-05-3	R3-03-2	R2-05-1	R3-06-1	T5-05-4	T2-03-3	T3-01-3
	-	T8-02-1	T8-02-4	T8-06-2	T3-05-4	T4-03-2	T8-06-1
Rack 11	R1-02-3	T3-04-1	-	T1-06-3	R2-05-4	T7-06-1	-
	T6-03-3	T5-01-4	R3-03-3	T5-06-1	T6-02-4	T8-02-3	R2-03-1
	T4-02-4	T2-06-3	T4-06-2	T4-03-3	T6-06-3	R3-03-1	T8-05-4
Rack 12	-	T6-02-1	R1-06-4	R3-04-2	-	T6-04-2	T7-05-2
	T6-03-4	R3-02-4	T1-06-4	T2-03-4	T6-03-1	T1-03-3	T8-03-4
	R1-02-2	T2-03-2	T5-03-1	T3-05-2	T7-04-1	T8-01-4	R3-04-3
Rack 13	-	R3-06-2	T1-05-3	T2-04-1	R2-03-4	T7-04-4	-
	R2-03-2	T5-04-4	R2-06-2	T6-03-2	T3-01-2	T2-04-4	R1-02-1
	T6-04-1	T1-05-4	T3-05-3	T5-02-2	T5-05-3	T6-06-4	-
Rack 14	T3-01-1	R1-06-3	T4-06-3	R3-04-4	T6-04-3	T4-04-1	T7-05-1
	T3-06-1	T6-02-2	T2-06-4	R1-06-2	R3-03-4	T2-03-1	R2-05-3
	T5-05-2	R3-04-1	T1-03-2	T4-03-4	T6-02-3	T4-06-4	-
Rack 15	R1-04-3	T2-04-3	R2-05-2	T1-02-4	T5-05-1	R2-02-4	T8-03-2
	T1-03-1	R2-03-3	T4-03-1	T5-02-3	T6-04-4	T1-04-1	T7-05-4

¹ T₁= 8-VP-1, T₂= 18-VP-2, T₃= 23B-VP-1, T₄= 23B-VP-2, T₅= 38-VP-1, T₆= 38-VP-2, T₇= 46-VP-1, T₈= 46-VP-5, R₁= WML-1, R₂= WML-2, R₃= WML-3. 6 egg masses with 4 replicates of each egg mass.

Housatonic River Project Vernal Pool Phase I Developmental Study 2000¹ Randomization Chart

Rack 1	T7-EM01-2 - T5-EM02-1 R1-EM02-4	T4-EM01-3 - T4-EM04-4 R1-EM03-1	R3-EM06-4 T1-EM02-3 T2-EM06-2 T6-EM01-2	T7-EM01-4 R1-EM03-2 R1-EM01-4 T2-EM05-4	T5-EM04-1 T1-EM04-2 T6-EM01-1 T3-EM04-4	R2-EM04-1 T5-EM06-3 T3-EM02-1 T6-EM05-1	T4-EM05-1 T6-EM06-2 R2-EM02-2 T2-EM01-1
Rack 2	R2-EM01-2 T3-EM03-1 - R3-EM01-1	T4-EM01-1 R2-EM06-1 T5-EM06-2 T3-EM04-3	R3-EM06-3 T4-EM06-1 R2-EM02-1 T5-EM03-2	R2-EM01-4 T3-EM06-2 T6-EM05-2 -	T1-EM01-3 T7-EM01-1 T5-EM01-1 T8-EM05-2	- R1-EM04-1 T6-EM05-3 -	T6-EM05-4 T8-EM06-4 T6-EM06-1 -
Rack 3	T7-EM06-2 R2-EM04-2 T4-EM05-2 T2-EM02-3	R3-EM05-1 T1-EM04-3 T3-EM02-2 R3-EM01-2	T2-EM05-1 R1-EM04-2 T2-EM01-2 T4-EM02-1	R3-EM05-2 T4-EM04-2 T6-EM01-3 T4-EM01-2	T5-EM04-2 T8-EM05-1 R2-EM06-3 T8-EM01-1	T8-EM01-2 T4-EM05-3 - R3-EM02-1	T1-EM02-1 T8-EM04-1 T7-EM03-1 -
Rack 4	T7-EM03-2 - T8-EM02-2 T8-EM04-4	T2-EM06-1 R2-EM01-3 T2-EM05-2 T5-EM01-2	T8-EM05-3 - T5-EM06-4 R3-EM05-4	T1-EM01-1 T2-EM01-4 T1-EM06-2 R2-EM02-3	T3-EM06-3 R2-EM06-4 T4-EM04-3 T7-EM01-3	- T7-EM02-1 - T7-EM06-3	R1-EM01-1 T2-EM02-4 R1-EM05-1 T4-EM01-4
Rack 5	T1-EM02-2 - T4-EM02-2 R3-EM01-4	R2-EM04-3 T5-EM03-3 T1-EM05-1 T7-EM03-4	T3-EM02-3 R2-EM01-1 T2-EM02-1 T2-EM05-3	T1-EM01-2 T5-EM04-3 T5-EM01-3 R3-EM02-3	T6-EM01-4 T3-EM03-2 T1-EM04-4 T8-EM04-2	R3-EM02-2 - T7-EM02-2 T8-EM01-3	T3-EM02-4 T5-EM03-4 T1-EM01-4 T7-EM03-3
Rack 6	T3-EM03-4 - R1-EM05-4 -	T3-EM06-4 R3-EM01-3 T3-EM05-1 -	R3-EM05-3 T2-EM01-3 T1-EM05-2 -	- R2-EM04-4 T7-EM02-4 T8-EM04-3	T4-EM05-4 T7-EM06-4 T3-EM03-3 -	- R1-EM04-4 T2-EM01-1 -	T7-EM02-3 - R1-EM01-2 -
Rack 7	T8-EM03-1 R1-EM05-2 T3-EM01-4 T1-EM03-4	- R1-EM06-1 R1-EM03-4 T5-EM02-4	- T2-EM04-2 T1-EM06-1 -	T2-EM02-2 R1-EM03-3 T7-EM04-2 -	- R1-EM01-3 R1-EM05-3 T8-EM03-3	- T8-EM06-3 T3-EM04-2 -	- T7-EM04-3 - T4-EM02-3
Rack 8	T7-EM05-3 - R1-EM02-3 T6-EM03-3	R3-EM03-2 T8-EM02-1 T3-EM04-1 T5-EM01-4	R2-EM05-1 T8-EM02-4 - R3-EM03-3	R3-EM06-1 T8-EM06-2 T1-EM06-3 T5-EM06-1	T5-EM05-4 T3-EM05-4 R2-EM05-4 T6-EM02-4	T2-EM03-3 T4-EM03-2 T7-EM06-1 T8-EM02-3	T3-EM01-3 T8-EM06-1 - R2-EM03-1
Rack 9	T4-EM02-4 - T6-EM03-4 R1-EM02-2	T2-EM06-3 T6-EM02-1 R3-EM02-4 T2-EM03-2	T4-EM06-2 R1-EM06-4 T1-EM06-4 T5-EM03-1	T4-EM03-3 R3-EM04-2 T2-EM03-4 T3-EM05-2	T6-EM06-3 - T6-EM03-1 T7-EM04-1	R3-EM03-1 T6-EM04-2 T1-EM03-3 T8-EM01-4	T8-EM05-4 T7-EM05-2 T8-EM03-4 R3-EM04-3
Rack 10	- R2-EM03-2 T6-EM04-1 T3-EM01-1	R3-EM06-2 T5-EM04-4 T1-EM05-4 R1-EM06-3	T1-EM05-3 R2-EM06-2 T3-EM05-3 T4-EM06-3	T2-EM04-1 T6-EM03-2 T5-EM02-2 R3-EM04-4	R2-EM03-4 T3-EM01-2 T5-EM05-3 T6-EM04-3	T7-EM04-4 T2-EM04-4 T6-EM06-4 T4-EM04-1	- R1-EM02-1 - T7-EM05-1
Rack 11	T3-EM06-1 T5-EM05-2 R1-EM04-3 T1-EM03-1	T6-EM02-2 R3-EM04-1 T2-EM04-3 R2-EM03-3	T2-EM06-4 T1-EM03-2 R2-EM05-2 T4-EM03-1	R1-EM06-2 T4-EM03-4 T1-EM02-4 T5-EM02-3	R3-EM03-4 T6-EM02-3 T5-EM05-1 T6-EM04-4	T2-EM03-1 T4-EM06-4 R2-EM02-4 T1-EM04-1	R2-EM05-3 - T8-EM03-2 T7-EM05-4

¹ T₁= 8-VP-1, T₂= 18-VP-2, T₃= 23B-VP-1, T₄= 23B-VP-2, T₅= 38-VP-1, T₆= 38-VP-2, T₇= 46-VP-1, T₈= 46-VP-5, R₁= WML-1, R₂= WML-2, R₃= WML-3; 6 egg masses with 4 replicates of each egg mass.

Appendix C

Housatonic River Project Vernal Pool Crossover Study 2000¹ Randomization Chart

Rack 1	T1-5	T4-6	T2-5	-	T2-6	T3-10	T3-1
	-	T1-7	-	T1-1	T3-5	T1-8	-
	T4-1	T3-3	T4-4	T4-7	-	T4-5	-
	T1-6	T3-9	T2-7	T3-2	T1-9	T2-9	T3-8
Rack 2	T4-3	T2-8	T4-8	T2-3	T4-9	-	-
	T2-1	T1-2	T1-4	-	T3-7	T2-10	T1-10
	T3-4	-	T3-6	T4-2	-	T2-2	T4-10
	-	T2-4	-	-	T1-3	-	-

¹ T₁= WML 1 larvae in 38-VP-1 media, T₂= WML 2 larvae in 38-VP-2 media, T₃= 38-VP-1 larvae in WML 1 media, T₄= 38-VP-2 larvae in WML 2 media. 10 replicates used.

Appendix C

Housatonic River Project Vernal Pool Sediment Spike Study 2000¹ (Spiked with Aroclor 1260) Randomization Chart

Rack 1	-	S2
	S1	-
	S4	-
	-	S3

¹ S= 30mg/Kg Aroclor 1260 spiked sediment, replicates 1-4.

Phase I Developmental Study

Raw Data:

Egg Mass

Mortality/Metamorphosis

Larval Stage/Malformations

Larval Growth

Metamorph Abnormality/Weight

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I RAMA sylvatica EGG MASS DATA

Western ID Number	Woodlot ID Number	Egg Mass ID Number	Total Egg Mass Weight (g)	Date Received	Total Number Eggs ¹	Number Fertilized Eggs	% Fertilized Eggs ²	Number Unfertilized Eggs ³	% Unfertilized Eggs ³	Number Necrotic Eggs ⁴	% Necrotic Eggs ⁴	Number Viable Eggs ⁵	% Viable Eggs ⁵	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs	% Hatching Success
Based on 25% Subsample of Egg Mass																		
H3-TA08RS22	46-VP-5	O-EM06	232.135	4/4/2000	210	210	100.00	0	0.00	0	0.00	210	100.00	4/6/2000	512	11	523	97.90
H3-TA08RS22	46-VP-5	O-EM07	227.434	4/4/2000	235	235	100.00	0	0.00	0	0.00	235	100.00	4/7/2000	438	169	607	72.16
H3-TA08RS22	46-VP-5	O-EM08	244.941	4/4/2000	280	280	100.00	0	0.00	1	0.36	279	99.64	4/6/2000	604	16	620	97.42
H3-TA08RS22	46-VP-5	O-EM09	184.946	4/4/2000	219	219	99.55	1	0.45	2	0.91	217	99.09	4/6/2000	500	27	527	94.88
H3-TA08RS22	46-VP-5	O-EM10	257.800	4/4/2000	223	223	100.00	0	0.00	0	0.00	223	100.00	4/6/2000	555	15	570	97.37
H3-TA08RS22	46-VP-5	1-EM10	281.269	4/4/2000	280	280	100.00	0	0.00	5	1.79	275	98.21	4/6/2000	695	62	757	91.81
		MEAN	238.09		237.83	237.83	99.92	0.17	0.08	1.33	0.51	236.67	99.49		559.67	50.00	609.67	91.92
		VAR (S ²)	1054.63		725.37	725.37	0.03	0.17	0.03	3.87	0.52	643.47	0.52		8090.27	3747.20	7450.67	96.99
		SEM	13.26		11.00	11.00	0.08	0.17	0.08	0.29	0.29	10.36	0.29		36.72	24.89	35.24	4.06
		CV (%)	13.04		11.32	11.32	8.19	244.95	244.95	147.48	140.83	10.72	0.72		16.33	122.43	14.37	10.82
Based on 30% Subsample of Egg Mass																		
H2-TA02RS20	8-VP-1	O-EM06	405.849	4/7/2000	321	210	65.42	111	34.59	111	34.59	210	65.42	4/8/2000	428	355	783	54.66
H2-TA02RS20	8-VP-1	O-EM07	345.575	4/7/2000	399	187	46.87	74	18.54	76	19.05	195	48.87	4/8/2000	287	384	671	41.01
H2-TA02RS20	8-VP-1	O-EM08	340.232	4/7/2000	180	37	20.56	143	79.44	143	79.44	37	20.56	4/8/2000	446	514	960	48.48
H2-TA02RS20	8-VP-1	O-EM09	275.486	4/7/2000	247	206	83.40	41	16.60	42	17.00	205	83.00	4/8/2000	36	235	271	13.28
H2-TA02RS20	8-VP-1	O-EM10	224.153	4/7/2000	321	311	96.88	10	3.12	10	3.12	311	96.88	4/8/2000	478	125	601	78.20
		MEAN	335.89		284.83	210.67	70.18	74.17	29.92	74.83	30.95	210.00	68.94		663	1	664	99.85
		VAR (S ²)	2196.08		4462.57	9792.27	704.38	2275.77	704.38	2259.77	700.29	9168.80	700.29		396.00	269.00	665.00	55.74
		SEM	19.13		27.27	40.40	10.83	19.48	10.83	19.41	10.80	40.35	10.80		45370.80	34972.40	51975.60	920.55
		CV (%)	13.95		23.45	46.97	37.82	64.32	69.80	63.52	68.04	47.87	37.84		86.96	76.24	93.07	72.39
															55.18	69.42	34.81	54.43
Based on Remaining 70% of Egg Mass																		
H3-TA08RS21	38-VP-2	O-EM06	233.436	4/6/2000	60	59	73.75	21	26.25	21	26.25	59	73.75	4/6/2000	613	26	639	95.93
H3-TA08RS21	38-VP-2	O-EM07	264.766	4/6/2000	311	287	92.28	24	7.72	24	7.72	287	92.28	4/7/2000	741	27	768	98.48
H3-TA08RS21	38-VP-2	O-EM08	256.022	4/6/2000	142	136	95.77	6	4.23	6	4.23	136	95.77	4/7/2000	527	161	688	76.60
H3-TA08RS21	38-VP-2	O-EM09	240.569	4/6/2000	111	102	91.89	9	8.11	9	8.11	102	91.89	4/7/2000	765	34	799	95.74
H3-TA08RS21	38-VP-2	O-EM10	249.369	4/6/2000	228	222	97.37	6	2.63	6	2.63	222	97.37	4/6/2000	477	9	486	98.15
		MEAN	254.74		241	226	97.93	5	2.07	5	2.07	226	97.93	4/7/2000	823	9	832	98.58
		VAR (S ²)	413.18		185.50	173.67	91.50	11.83	8.50	11.83	8.50	173.67	91.50		624.33	44.33	668.67	93.98
		SEM	8.30		7841.90	7153.87	81.96	70.97	81.96	70.97	81.96	7153.87	81.96		12841.87	3370.27	12563.87	70.57
		CV (%)	7.98		36.15	35.95	37.0	3.44	3.70	3.44	3.70	35.95	3.70		46.44	23.70	45.76	3.43
					47.74	50.70	5.89	106.50	106.50	71.19	106.50	50.70	9.89		18.22	130.95	16.76	8.88
Based on Remaining 70% of Egg Mass																		
H3-TA04RS27	18-VP-2	O-EM01	116.879	4/7/2000	401	390	97.26	11	2.74	11	2.74	390	97.26	4/9/2000	1076	29	1107	97.38
H3-TA04RS27	18-VP-2	O-EM02	171.948	4/7/2000	334	0	0.00	334	100.00	0	0.00	0	0.00	4/9/2000	0	700	700	0.00
H3-TA04RS27	18-VP-2	O-EM03	109.104	4/7/2000	285	283	100.00	0	0.00	0	0.00	283	100.00	4/9/2000	769	22	790	97.22
H3-TA04RS27	18-VP-2	O-EM04	257.269	4/7/2000	634	619	97.63	15	2.37	15	2.37	619	97.63	4/9/2000	1745	20	1765	98.13
H3-TA04RS27	18-VP-2	O-EM05	118.579	4/7/2000	833	830	99.53	3	0.47	3	0.47	830	99.53	4/9/2000	2266	20	2286	99.08
		MEAN	138.733		1053	1053	100.00	0	0.00	0	0.00	1053	100.00	4/9/2000	2515	277	2792	90.08
		VAR (S ²)	152.09		557.17	496.67	82.40	60.50	17.60	60.50	17.60	496.67	82.40		1385.67	285.00	1670.67	75.76
		SEM	3153.31		80929.37	128769.47	1631.08	17989.90	1631.08	17989.90	1631.08	128769.47	1631.08		915733.87	113517.60	861144.67	1488.72
		CV (%)	22.92		116.07	146.50	16.49	54.76	16.49	54.76	16.49	146.50	16.49		390.67	137.55	378.65	15.75
			36.92		51.03	72.25	45.01	221.70	229.51	221.70	229.51	72.25	49.01		68.57	114.21	54.89	50.93

¹Based on 25% or 30% subsample of egg mass.
²Based on remaining 70% or 75% of egg mass.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RAIA sylvatica* EGG MASS DATA

Weston ID Number	Woodlot ID Number	Egg Mass ID Number	Date Received	Total Egg Mass Weight (g)	Total Number Eggs	Number Fertilized Eggs	% Fertilized Eggs	Number Unfertilized Eggs	% Unfertilized Eggs	Number Necrotic Eggs	% Necrotic Eggs	Number Viable Eggs	% Viable Eggs	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs ²	% Hatching Success
H3-TA06RS28	236-VP-1	1-EM01	4/8/2000	283.176	334	316	94.61	18	5.39	18	5.39	316	94.61	4/7/2000	596	81	656	90.70
H3-TA06RS28	236-VP-1	1-EM02	4/8/2000	122.137	27	4	14.81	23	85.19	23	85.19	4	14.81	4/7/2000	462	88	530	81.17
H3-TA06RS28	236-VP-1	1-EM03	4/8/2000	174.136	265	224	84.53	41	15.47	41	15.47	224	84.53	4/7/2000	402	Decomposed	N/A	N/A
H3-TA06RS28	236-VP-1	1-EM04	4/8/2000	144.385	134	120	89.55	14	10.45	14	10.45	120	89.55	4/7/2000	155	Decomposed	N/A	N/A
H3-TA06RS28	236-VP-1	1-EM05	4/8/2000	250.543	340	288	84.71	52	15.29	52	15.29	288	84.71	4/7/2000	436	30	466	93.56
		MEAN		190.74	208.59	176.17	74.40	32.33	25.60	32.33	25.60	176.00	74.26		728	33	762	95.67
		VAR (S ²)		4219.07	17334.70	14441.77	890.04	555.47	890.04	545.10	896.06	14470.40	896.06		483.17	48.00	603.50	91.78
		SEM		26.52	53.75	49.06	12.18	9.62	12.18	9.57	12.15	48.11	12.15		37496.97	7.88	17395.67	13.57
		CV (%)		34.05	63.15	68.22	40.10	72.89	116.53	72.10	115.65	68.35	40.08		41.81	40.22	21.85	1.50
																		4.91
H3-TA06RS28	236-VP-2	1-EM01	4/8/2000	325.764	288	280	97.22	8	2.78	118	40.97	170	59.03	4/7/2000	369	221	590	62.54
H3-TA06RS28	236-VP-2	1-EM02	4/8/2000	448.476	292	244	83.55	18	6.87	65	24.81	197	75.19	4/7/2000	587	173	770	77.53
H3-TA06RS28	236-VP-2	1-EM03	4/8/2000	78.678	154	170	87.53	24	12.37	24	12.37	170	87.53	4/8/2000	365	268	633	57.66
H3-TA06RS28	236-VP-2	1-EM04	4/8/2000	146.287	113	46	40.71	67	59.29	77	68.14	36	31.86	4/7/2000	55	Decomposed	N/A	N/A
H3-TA06RS28	236-VP-2	1-EM05	4/8/2000	250.668	156	84	53.85	72	46.15	72	46.15	84	53.85	4/8/2000	1	497	498	0.20
		MEAN		287.45	395	365	92.41	30	7.59	30	7.59	365	92.41		857	119	976	87.81
		VAR (S ²)		287.45	234.67	198.17	77.49	36.50	22.51	64.33	33.34	170.33	66.66		374.00	255.60	633.40	57.15
		SEM		25476.06	10388.67	14722.57	574.23	708.70	574.23	1181.07	574.23	12621.07	574.23		104802.80	21276.80	34562.80	1196.97
		CV (%)		55.53	41.81	49.54	30.92	10.87	9.78	14.03	9.33	46.23	9.33		132.16	59.35	75.99	13.89
					43.43	61.23	30.92	72.94	106.46	53.42	66.51	66.48	34.27		86.56	57.37	26.81	59.52
H3-TA06RS30	38-VP-1	1-EM01	4/5/2000	432.758	203	201	99.01	2	0.99	5	2.46	188	97.54	4/8/2000	632	36	670	94.33
H3-TA06RS30	38-VP-1	1-EM02	4/5/2000	446.754	292	259	88.65	3	1.15	21	0.02	241	91.88	4/8/2000	589	95	684	88.31
H3-TA06RS30	38-VP-1	1-EM03	4/5/2000	295.144	222	218	97.30	4	1.80	9	4.05	213	95.95	4/8/2000	377	41	418	90.19
H3-TA06RS30	38-VP-1	1-EM04	4/5/2000	203.748	165	96	58.17	69	41.83	1	1.01	98	98.99	4/5/2000	808	1	809	99.88
H3-TA06RS30	38-VP-1	1-EM05	4/5/2000	200.417	183	172	94.04	11	6.01	6	3.24	179	96.78	4/8/2000	395	24	419	94.27
		MEAN		297.376	193	188	97.41	5	2.59	20	10.36	173	89.64		315	14	329	96.74
		VAR (S ²)		322.03	194.00	188.57	97.09	5.33	2.91	10.33	4.86	183.67	95.14		521.00	35.50	556.50	93.45
		SEM		9461.67	2919.26	2942.27	4.78	16.27	4.78	66.67	12.81	2365.47	12.81		35964.40	1072.30	37077.90	21.92
		CV (%)		30.21	27.85	28.75	2.25	75.62	73.09	60.19	73.68	26.48	3.76		77.42	13.37	76.61	1.91
															36.48	92.24	34.60	5.81
H3-TA06RS32	46-VP-1	1-EM01	4/7/2000	340.033	220	204	92.73	16	7.27	16	7.27	204	92.73	4/8/2000	472	6	478	98.74
H3-TA06RS32	46-VP-1	1-EM02	4/7/2000	284.980	179	161	89.94	18	10.06	25	13.97	154	86.03	4/9/2000	226	60	286	79.02
H3-TA06RS32	46-VP-1	1-EM03	4/7/2000	191.570	168	161	95.89	7	4.19	7	4.19	159	95.78	4/9/2000	289	70	359	81.03
H3-TA06RS32	46-VP-1	1-EM04	4/7/2000	152.744	221	213	96.38	8	3.62	6	3.62	213	96.38	4/10/2000	431	92	523	82.41
H3-TA06RS32	46-VP-1	1-EM05	4/7/2000	433.516	322	282	87.58	40	12.42	58	18.01	264	81.99	4/8/2000	508	134	640	79.06
		MEAN		343.131	275	245	89.09	30	10.91	31	11.27	244	88.73		444	11	455	97.58
		VAR (S ²)		284.00	230.50	211.00	92.12	19.50	7.89	24.17	9.73	206.33	90.27		386.33	62.17	458.50	86.31
		SEM		11362.69	3473.10	2250.00	15.35	177.50	15.35	362.97	32.54	1954.67	32.54		11942.67	2377.77	15952.38	86.09
		CV (%)		37.53	24.06	19.36	1.60	5.44	1.60	7.78	2.33	18.95	2.33		77.42	13.37	76.61	3.79
					25.57	22.48	4.25	68.32	49.71	78.83	58.64	21.43	6.32		27.57	78.44	26.76	10.75

¹Based on 25% or 30% subsample of egg mass.
²Based on remaining 76% or 75% of egg mass.

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RAIA sylvatica* EGG MASS DATA

Western ID	Woodlot ID	Woodlot Number	Egg Mass ID	Date Received	Total Egg Mass Weight (g)	Total Number Eggs ¹	Number Fertilized Eggs	% Fertilized Eggs	Number Unfertilized Eggs	% Unfertilized Eggs	Number Necrotic Eggs	% Necrotic Eggs	Number Viable Eggs	% Viable Eggs	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs ²	% Hatching Success
H9-TAWLRS41	WML-1		O-EM01	4/11/2000	185.854	169	180	95.74	8	4.26	14	7.45	174	92.55	4/12/2000	221	62	283	78.09
H9-TAWLRS41	WML-1		O-EM02	4/11/2000	262.916	266	263	99.87	3	1.13	108	40.60	158	59.40	4/12/2000	262	287	549	47.72
H9-TAWLRS41	WML-1		O-EM03	4/11/2000	323.355	274	270	98.54	4	1.48	34	12.41	240	87.59	4/12/2000	364	178	560	66.57
H9-TAWLRS41	WML-1		O-EM04	4/11/2000	280.769	236	235	99.74	3	1.26	9	3.78	229	96.22	4/12/2000	352	210	542	61.25
H9-TAWLRS41	WML-1		O-EM05	4/11/2000	219.327	263	214	81.37	49	18.63	49	18.63	214	81.37	4/12/2000	477	217	694	68.73
H9-TAWLRS41	WML-1		1-EM05	4/11/2000	313.781	315	273	86.67	42	13.33	42	13.33	273	86.67	4/12/2000	319	224	543	56.75
			MEAN		264.34	257.33	239.17	93.32	18.17	6.68	42.67	16.03	214.67	83.97		332.50	196.00	528.50	63.85
			VAR (S ²)		2099.02	1778.37	1362.97	56.08	456.57	56.08	1267.87	170.92	1823.07	170.92		8223.50	5611.60	17893.10	108.36
			SEM		20.85	17.22	15.07	3.06	8.72	3.06	14.54	5.34	17.43	5.34		27.27	37.02	54.61	4.25
			CV (%)		19.32	16.39	15.44	8.02	112.14	112.14	83.45	81.54	19.89	15.57			38.22	25.31	16.39
H9-TAWLRS42	WML-2		O-EM01	4/11/2000	177.759	240	233	97.08	7	2.92	7	2.92	233	97.08	4/13/2000	548	7	555	98.74
H9-TAWLRS42	WML-2		O-EM02	4/11/2000	178.101	226	169	74.78	57	25.22	57	25.22	169	74.78	4/13/2000	392	11	403	97.27
H9-TAWLRS42	WML-2		O-EM03	4/11/2000	161.793	225	208	92.44	17	7.56	208	92.44	208	92.44	4/13/2000	390	69	429	83.92
H9-TAWLRS42	WML-2		O-EM04	4/11/2000	193.297	262	260	99.24	2	0.76	43	16.41	219	83.59	4/13/2000	466	41	527	92.22
H9-TAWLRS42	WML-2		O-EM05	4/11/2000	74.778	61	61	100.00	0	0.00	5	8.20	56	91.80	4/13/2000	134	22	156	86.90
H9-TAWLRS42	WML-2		1-EM05	4/11/2000	212.527	237	228	96.20	9	3.80	9	3.80	228	96.20	4/13/2000	460	32	492	93.50
			MEAN		169.71	208.50	193.17	93.29	15.33	6.71	23.00	10.88	165.50	89.32		396.67	30.33	427.00	91.92
			VAR (S ²)		2336.58	5400.30	5107.77	89.33	452.27	89.33	473.60	73.57	4546.70	73.57		21050.67	519.87	20926.00	35.61
			SEM		19.73	30.00	29.18	3.86	8.68	3.86	8.98	3.50	27.53	3.50		59.23	9.31	59.06	2.44
			CV (%)		26.40	35.25	37.00	10.13	138.69	140.87	94.62	86.29	36.35	9.60		36.58	75.17	33.88	6.49
H9-TAWLRS43	WML-3		O-EM01	4/11/2000	297.263	264	262	95.92	12	4.08	12	4.08	262	95.92	4/13/2000	408	96	504	80.95
H9-TAWLRS43	WML-3		O-EM02	4/11/2000	159.608	195	185	94.87	10	5.13	10	5.13	185	94.87	4/13/2000	284	89	373	78.14
H9-TAWLRS43	WML-3		O-EM03	4/11/2000	193.436	203	198	97.54	5	2.46	5	2.46	198	97.54	4/13/2000	396	100	496	79.84
H9-TAWLRS43	WML-3		O-EM04	4/11/2000	233.315	184	173	94.02	11	5.98	11	5.98	173	94.02	4/13/2000	280	168	448	62.78
H9-TAWLRS43	WML-3		O-EM05	4/11/2000	200.317	168	167	99.40	1	0.60	1	0.60	167	99.40	4/13/2000	256	129	385	68.49
H9-TAWLRS43	WML-3		1-EM05	4/11/2000	178.941	158	147	93.04	11	6.98	11	6.98	147	93.04	4/13/2000	314	33	347	90.49
			MEAN		211.81	200.33	192.00	95.80	8.33	4.20	8.33	4.20	192.00	95.80		323.00	102.17	425.17	76.12
			VAR (S ²)		2394.02	2392.67	2239.20	5.54	19.07	5.54	19.07	5.54	2239.20	5.54		4098.80	1959.97	4422.17	102.86
			SEM		19.93	19.93	15.32	0.96	1.78	0.96	1.78	0.96	19.32	0.96		26.14	18.07	27.15	4.14
			CV (%)		23.05	24.37	24.65	2.46	56.00	56.00	52.40	56.00	24.65	2.46		19.82	43.32	15.64	13.32

¹Based on 25% or 35% subsample of egg mass.²Based on remaining 75% or 75% of egg mass.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RAIA sylvatica* EGG MASS DATA

Weston ID Number	Woodlot ID Number	Egg Mass ID Number	Total Egg Mass Weight (g)	Date Received	Total Number Eggs*	Number Fertilized Eggs	% Fertilized Eggs	Number Unfertilized Eggs	% Unfertilized Eggs	Number Necrotic Eggs	% Necrotic Eggs	Number Viable Eggs	% Viable Eggs	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs*	% Hatching Success			
Calculated From 25% And 30% Subsample Data To Represent 100% Of Egg Mass																			Calculated From 75% And 76% Subsample Data To Represent 100% Of Egg Mass		
H2-TA0RS20	8-VP-1	O-EM06	405.649	4/7/2000	1070	700	65.42	370	34.58	370	34.58	700	65.42	4/8/2000	611	507	1119	54.66			
H2-TA0RS20	8-VP-1	O-EM07	345.375	4/7/2000	903	657	72.89	247	27.11	253	28.04	650	71.96	4/8/2000	361	549	910	41.01			
H2-TA0RS20	8-VP-1	O-EM08	340.232	4/7/2000	1230	1010	82.11	220	17.89	223	18.16	1007	81.84	4/8/2000	637	734	1371	46.46			
H2-TA0RS20	8-VP-1	O-EM09	275.486	4/7/2000	600	123	20.50	477	79.44	123	20.55	123	20.55	4/8/2000	51	336	387	13.28			
H2-TA0RS20	8-VP-1	O-EM10	292.133	4/7/2000	823	687	83.40	137	16.60	140	17.00	683	83.00	4/8/2000	680	179	859	79.20			
		MEAN	356.267		1070	1037	96.88	33	3.12	33	3.12	1037	96.88	4/8/2000	947	1	949	99.85			
		VAR (S ²)	335.89		949.44	702.22	70.18	247.22	26.82	249.44	30.06	700.00	69.94		551.43	384.29	935.71	55.74			
		SEM	2196.08		49584.07	108802.96	704.38	25296.30	704.38	25168.52	700.29	108542.22	700.29		92593.47	71166.16	16672.65	920.55			
		CV (%)	19.13		90.91	134.66	10.83	64.92	10.83	64.69	10.80	134.50	10.80		124.23	108.91	132.96	12.39			
			13.95		23.45	46.97	37.82	64.32	89.00	63.52	88.04	47.07	37.84		55.19	69.42	34.81	54.43			
Calculated From 25% And 30% Subsample Data To Represent 100% Of Egg Mass																			Calculated From 75% And 76% Subsample Data To Represent 100% Of Egg Mass		
H3-TA0RS21	38-VP-2	O-EM06	233.436	4/6/2000	287	197	73.75	70	26.25	70	26.25	197	73.75	4/8/2000	878	37	913	95.93			
H3-TA0RS21	38-VP-2	O-EM07	264.786	4/6/2000	1037	957	92.26	80	7.72	80	7.72	957	92.26	4/7/2000	1059	39	1097	96.48			
H3-TA0RS21	38-VP-2	O-EM08	256.022	4/6/2000	473	453	95.77	20	4.23	20	4.23	453	95.77	4/7/2000	753	230	983	76.60			
H3-TA0RS21	38-VP-2	O-EM09	240.589	4/6/2000	780	340	43.72	440	56.28	30	3.84	340	43.72	4/7/2000	1093	49	1141	95.74			
H3-TA0RS21	38-VP-2	O-EM10	244.249	4/6/2000	803	767	95.52	36	4.48	36	4.48	767	95.52	4/8/2000	881	13	894	98.15			
		MEAN	254.74		618.33	578.89	91.50	39.44	6.40	39.44	6.50	578.78	91.49		891.90	63.33	955.24	93.58			
		VAR (S ²)	413.18		87132.22	86154.07	91.96	788.52	81.96	788.52	81.96	86096.74	81.75		26411.97	6878.10	23546.54	70.57			
		SEM	8.30		120.51	119.83	3.70	11.46	3.70	11.46	3.70	119.79	3.69		56.35	33.86	65.37	3.43			
		CV (%)	7.38		47.74	50.76	9.89	71.19	106.50	71.19	106.50	50.70	9.88		18.22	130.95	16.76	8.98			
Calculated From 25% And 30% Subsample Data To Represent 100% Of Egg Mass																			Calculated From 75% And 76% Subsample Data To Represent 100% Of Egg Mass		
H3-TA0RS22	46-VP-5	O-EM06	232.135	4/4/2000	840	840	100.00	0	0.00	0	0.00	840	100.00	4/6/2000	883	15	897	97.90			
H3-TA0RS22	46-VP-5	O-EM07	227.434	4/4/2000	940	940	100.00	0	0.00	0	0.00	940	100.00	4/6/2000	884	225	1109	72.16			
H3-TA0RS22	46-VP-5	O-EM08	244.841	4/4/2000	1040	1040	100.00	0	0.00	4	0.38	1036	99.62	4/6/2000	805	21	827	97.42			
H3-TA0RS22	46-VP-5	O-EM09	184.845	4/4/2000	880	876	99.55	4	0.45	8	0.91	872	99.09	4/6/2000	667	36	703	94.86			
H3-TA0RS22	46-VP-5	O-EM10	257.800	4/4/2000	882	882	100.00	0	0.00	0	0.00	882	100.00	4/6/2000	740	20	760	97.37			
		MEAN	233.09		1120	1120	100.00	0	0.00	20	1.79	1100	98.21		927	63	1009	91.81			
		VAR (S ²)	238.09		952.00	951.33	99.92	0.67	0.08	5.33	0.51	946.67	99.49		734.22	66.67	800.89	91.92			
		SEM	1054.63		11688.00	11685.87	0.03	2.67	0.03	61.87	0.52	10295.47	0.52		14382.70	6661.69	13245.63	98.99			
		CV (%)	13.26		43.76	43.98	0.08	0.67	0.08	3.21	0.29	41.42	0.29		48.96	33.32	46.99	4.06			
			13.64		11.26	11.32	0.19	244.95	147.48	147.48	140.03	10.72	0.72		16.33	122.43	14.37	10.62			
Calculated From 25% And 30% Subsample Data To Represent 100% Of Egg Mass																			Calculated From 75% And 76% Subsample Data To Represent 100% Of Egg Mass		
H3-TA0RS27	18-VP-2	O-EM01	118.879	4/7/2000	1337	1300	97.26	37	2.74	37	2.74	1300	97.26	4/9/2000	1540	41	1581	97.36			
H3-TA0RS27	18-VP-2	O-EM02	171.948	4/7/2000	1113	0	0.00	1113	100.00	0	0.00	0	0.00	N/A	0	1000	1000	0.00			
H3-TA0RS27	18-VP-2	O-EM03	109.104	4/7/2000	960	960	100.00	0	0.00	0	0.00	960	100.00	4/9/2000	1087	31	1129	97.22			
H3-TA0RS27	18-VP-2	O-EM04	257.269	4/7/2000	2113	2083	98.63	30	1.42	50	2.37	2083	97.63	4/9/2000	2483	1031	3514	70.73			
H3-TA0RS27	18-VP-2	O-EM05	135.733	4/7/2000	3510	3510	100.00	0	0.00	0	0.00	3510	100.00	4/9/2000	3240	29	3269	99.13			
		MEAN	152.09		1857.22	1655.56	92.40	201.67	17.60	201.67	17.60	1655.56	92.40		3593	398	3991	90.06			
		VAR (S ²)	3153.31		896104.07	896104.07	1631.08	199887.78	1631.08	199887.78	1631.08	1430771.85	1631.88		1993.81	421.43	2415.24	75.76			
		SEM	22.92		386.88	386.88	16.48	182.52	16.49	182.52	16.49	386.33	16.49		105844.63	231666.57	1737436.10	1486.72			
		CV (%)	36.92		51.03	72.25	49.01	221.70	229.51	221.70	229.51	72.25	49.01		68.57	114.21	54.89	50.93			

*Based on 30% or 36% subsample of egg mass.
*Based on remaining 70% or 73% of egg mass.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I/ANNA SYLVATICA EGG MASS DATA

Wetland ID	Woodlot ID	Egg Mass ID	Total Egg Mass Weight (g)	Total Number Eggs ¹	Number Fertilized Eggs	% Fertilized Eggs	Number Unfertilized Eggs	% Unfertilized Eggs	Number Necrotic Eggs	% Necrotic Eggs	Number Viable Eggs	% Viable Eggs	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs ²	% Hatching Success
H3-TA06RS28	23b-VP-1	0-EM01	263.178	1113	1053	94.61	60	5.39	60	5.39	1053	94.61	4/7/2000	850	87	937	90.70
H3-TA06RS28	23b-VP-1	1-EM01	122.137	90	13	14.61	77	85.19	77	85.19	13	14.61	4/7/2000	690	87	757	87.17
H3-TA06RS28	23b-VP-1	0-EM02	174.136	403	350	86.78	53	13.22	57	14.05	346	85.79	4/7/2000	574	Decomposed	N/A	N/A
H3-TA06RS28	23b-VP-1	0-EM03	162.039	883	747	75.53	237	24.07	237	24.07	746	75.65	4/7/2000	221	Decomposed	N/A	N/A
H3-TA06RS28	23b-VP-1	0-EM04	144.395	447	400	89.55	47	10.45	47	10.45	400	89.55	4/7/2000	623	43	866	93.56
H3-TA06RS28	23b-VP-1	0-EM05	258.643	1133	980	84.71	173	15.29	173	15.29	980	84.71	4/7/2000	1041	47	1089	96.67
		MEAN	190.74	695.00	587.22	74.40	107.78	25.60	108.33	25.74	586.44	74.22		661.67	68.57	862.14	91.78
		VAR (S ²)	4219.07	192607.78	160464.07	890.04	6171.85	890.04	6101.11	896.06	160803.67	895.25		76528.58	780.54	35501.36	13.57
		SEM	26.32	179.47	163.54	12.18	32.07	12.18	31.89	12.15	163.71	12.15		112.94	11.28	75.92	1.50
		CV (%)	34.05	63.15	68.22	40.10	72.89	116.53	72.10	115.65	68.38	40.09		41.81	40.22	21.85	4.01
H3-TA06RS29	23b-VP-2	0-EM01	325.764	960	833	97.22	27	2.78	383	40.97	567	59.03	4/7/2000	527	316	843	92.54
H3-TA06RS29	23b-VP-2	1-EM01	448.478	873	813	93.13	60	6.87	217	24.81	556	75.11	4/7/2000	853	247	1100	77.53
H3-TA06RS29	23b-VP-2	0-EM02	76.678	647	587	87.63	60	12.37	80	12.37	567	87.63	4/7/2000	521	343	904	97.66
H3-TA06RS29	23b-VP-2	0-EM03	146.267	377	153	40.71	223	58.29	257	68.14	120	31.86	4/7/2000	79	Decomposed	N/A	N/A
H3-TA06RS29	23b-VP-2	0-EM04	250.688	520	280	53.85	240	46.15	240	46.15	280	53.85	4/7/2000	1	710	711	0.20
H3-TA06RS29	23b-VP-2	0-EM05	474.831	1317	1217	92.41	100	7.59	100	7.59	1217	92.41	4/7/2000	1224	170	1394	87.81
		MEAN	287.45	782.22	660.56	77.49	121.67	22.51	214.44	33.34	567.87	66.65		534.29	385.14	900.57	87.15
		VAR (S ²)	25476.06	115429.63	163984.07	574.23	7874.44	574.23	13122.96	921.77	142432.67	921.52		213883.27	43422.04	70536.33	1156.97
		SEM	65.16	138.70	165.12	9.78	36.23	9.78	46.77	9.33	134.07	9.32		188.80	85.07	106.43	13.89
		CV (%)	55.53	43.43	61.23	30.92	72.94	106.46	53.42	68.51	66.46	34.27		86.56	57.07	26.81	59.52
H3-TA06RS30	38-VP-1	0-EM01	432.758	677	670	99.01	7	0.95	17	2.46	660	97.54	4/6/2000	903	54	957	94.33
H3-TA06RS30	38-VP-1	0-EM02	446.754	873	863	98.85	10	1.15	70	8.02	803	91.98	4/6/2000	855	136	991	89.31
H3-TA06RS30	38-VP-1	0-EM03	285.144	740	720	97.30	20	2.70	30	4.05	710	95.96	4/6/2000	539	59	597	90.19
H3-TA06RS30	38-VP-1	0-EM04	289.748	330	320	96.97	10	3.03	3	1.01	327	98.99	4/6/2000	1154	1	1156	99.68
H3-TA06RS30	38-VP-1	0-EM05	200.417	617	573	92.97	43	7.03	20	3.24	597	96.76	4/6/2000	564	34	599	94.27
		MEAN	297.375	643	627	97.41	17	2.59	67	10.36	576	89.53	4/6/2000	450	20	470	95.74
		VAR (S ²)	322.03	646.67	620.89	97.09	17.78	2.81	34.44	4.86	612.11	95.12		744.29	50.71	795.00	93.45
		SEM	9461.67	32435.56	32691.85	4.79	180.74	4.79	762.96	12.81	26292.52	13.04		73396.73	2786.37	75669.18	21.92
		CV (%)	30.21	73.53	73.81	0.89	5.49	0.89	11.38	1.46	96.20	1.47		110.56	19.10	112.36	1.91
				27.85	28.75	2.25	75.52	75.09	86.15	73.68	26.49	3.80		36.40	92.24	34.50	5.01
H3-TA06RS32	48-VP-1	0-EM01	340.033	733	600	92.73	53	7.27	53	7.27	680	92.73	4/8/2000	674	9	683	98.74
H3-TA06RS32	48-VP-1	1-EM01	244.980	597	537	89.94	60	10.06	53	13.87	514	86.15	4/8/2000	323	86	409	76.02
H3-TA06RS32	48-VP-1	0-EM02	191.570	553	537	96.99	17	3.01	23	4.22	530	95.78	4/8/2000	427	100	527	81.03
H3-TA06RS32	48-VP-1	0-EM03	150.744	737	710	96.35	27	3.62	193	18.01	710	96.35	4/10/2000	916	131	747	82.41
H3-TA06RS32	48-VP-1	0-EM04	433.516	1073	940	87.56	133	12.42	103	11.27	860	81.99	4/8/2000	723	191	914	79.09
H3-TA06RS32	48-VP-1	0-EM05	343.131	917	817	89.09	100	10.91	103	11.27	814	88.80	4/8/2000	634	16	650	87.59
		MEAN	284.00	768.33	703.33	92.12	65.00	7.88	80.56	9.73	688.00	90.30		566.19	88.81	655.09	96.31
		VAR (S ²)	11362.69	38590.00	25000.80	15.35	1972.22	15.35	4932.96	32.54	21705.60	32.31		24372.79	4852.59	30718.98	86.09
		SEM	43.52	90.20	64.55	1.60	18.13	1.60	25.93	2.33	65.15	2.32		63.73	28.44	71.55	3.79
		CV (%)	37.53	25.57	22.48	4.25	68.32	45.71	78.83	58.84	21.41	6.29		27.57	78.44	26.76	10.73

¹Based on 35% or 30% subsample of egg mass.
²Based on remaining 70% or 75% of egg mass.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I: *RANA sylvatica* EGG MASS DATA

Western ID	Woodlot ID	Egg Mass ID	Date Received	Total Egg Mass Weight (g)	Total Number Eggs ¹	Number Fertilized Eggs	% Fertilized Eggs	Number Unfertilized Eggs	% Unfertilized Eggs	Number Necrotic Eggs	% Necrotic Eggs	Number Viable Eggs	% Viable Eggs	Date Hatched	Number Hatched Eggs	Number Unhatched Eggs	Total Number Eggs ²	% Hatching Success
H9-TAWLRS41	WML-1	O-EM01	4/11/2000	195.654	827	690	83.44	27	4.26	47	7.45	590	92.55	4/12/2000	316	89	404	78.09
H9-TAWLRS41	WML-1	O-EM02	4/11/2000	252.916	867	877	98.87	10	1.13	380	40.60	527	59.40	4/12/2000	374	410	784	47.72
H9-TAWLRS41	WML-1	O-EM03	4/11/2000	323.355	913	900	98.54	13	1.46	113	12.41	800	87.59	4/12/2000	549	251	800	68.57
H9-TAWLRS41	WML-1	O-EM04	4/11/2000	280.789	793	783	98.74	10	1.26	30	3.78	763	96.22	4/12/2000	474	300	774	61.25
H9-TAWLRS41	WML-1	O-EM05	4/11/2000	219.327	677	713	81.37	163	18.63	163	18.63	713	81.37	4/12/2000	681	310	991	68.73
H9-TAWLRS41	WML-1	1-EM05	4/11/2000	313.781	1050	910	86.67	140	13.33	140	13.33	910	86.67	4/12/2000	456	320	776	58.75
		MEAN		264.34	857.78	797.22	93.32	60.56	6.88	142.22	16.03	715.56	83.97		475.00	280.00	755.00	63.85
		VAR (S ²)		2609.02	18759.52	15144.87	56.08	5072.96	56.08	14087.41	170.92	20256.30	170.92		16792.65	11452.24	38516.53	108.36
		SEM		20.85	37.39	50.24	3.06	28.08	3.06	48.46	5.34	58.10	5.34		52.89	43.69	76.81	4.25
		CV (%)		10.32	16.39	15.44	8.02	117.62	112.14	83.45	81.54	19.89	15.57		27.27	38.22	25.31	16.30
H9-TAWLRS42	WML-2	O-EM01	4/11/2000	177.759	800	777	97.08	23	2.92	23	2.92	777	97.08	4/13/2000	783	10	793	98.74
H9-TAWLRS42	WML-2	O-EM02	4/11/2000	178.101	753	563	74.76	190	25.22	190	25.22	563	74.76	4/13/2000	560	18	576	97.27
H9-TAWLRS42	WML-2	O-EM03	4/11/2000	181.793	750	693	92.44	57	7.56	57	7.56	693	92.44	4/13/2000	514	59	573	89.52
H9-TAWLRS42	WML-2	O-EM04	4/11/2000	193.297	873	867	99.24	6	0.76	143	16.41	730	83.59	4/13/2000	684	99	783	87.22
H9-TAWLRS42	WML-2	O-EM05	4/11/2000	74.778	203	203	100.00	0	0.00	17	8.20	186	91.48	4/13/2000	181	31	223	85.90
H9-TAWLRS42	WML-2	1-EM05	4/11/2000	212.527	790	760	96.20	30	3.80	30	3.80	760	96.20	4/13/2000	657	48	703	93.60
		MEAN		169.71	695.00	643.89	93.29	51.11	6.71	76.67	10.68	618.22	89.26		586.67	43.33	610.00	91.92
		VAR (S ²)		2336.58	60003.33	56752.96	89.33	5025.19	89.33	5262.22	73.57	50634.07	73.57		42960.54	1080.95	42706.12	35.61
		SEM		19.73	100.00	97.26	3.86	28.81	3.86	29.81	3.50	91.86	3.49		84.62	13.30	84.37	2.44
		CV (%)		20.48	35.25	37.00	10.13	138.69	140.87	94.82	80.29	36.40	9.39		36.59	75.17	33.88	6.49
H9-TAWLRS43	WML-3	O-EM01	4/11/2000	297.263	980	940	95.92	40	4.08	40	4.08	940	95.92	4/13/2000	583	137	720	80.95
H9-TAWLRS43	WML-3	O-EM02	4/11/2000	159.658	850	817	96.87	33	5.13	33	5.13	817	96.87	4/13/2000	408	127	533	76.14
H9-TAWLRS43	WML-3	O-EM03	4/11/2000	193.436	677	660	97.54	17	2.48	17	2.48	660	97.54	4/13/2000	566	143	709	79.84
H9-TAWLRS43	WML-3	O-EM04	4/11/2000	233.315	813	577	94.02	37	5.98	37	5.98	577	94.02	4/13/2000	400	237	637	82.76
H9-TAWLRS43	WML-3	O-EM05	4/11/2000	208.317	560	550	98.40	3	0.60	3	0.60	557	99.40	4/13/2000	386	184	550	68.49
H9-TAWLRS43	WML-3	1-EM05	4/11/2000	178.841	527	490	93.04	37	6.98	37	6.98	490	93.04	4/13/2000	449	47	496	80.49
		MEAN		211.81	667.78	640.00	95.80	27.78	4.20	27.78	4.20	640.00	95.80		461.43	145.95	607.38	76.12
		VAR (S ²)		2384.02	26474.07	24880.00	5.54	211.85	5.54	211.85	5.54	24880.00	5.54		8364.30	3597.89	9924.83	102.86
		SEM		19.93	66.43	64.39	0.96	6.94	0.96	5.94	0.96	64.39	0.96		37.34	26.81	36.78	4.14
		CV (%)		23.05	24.37	24.65	2.46	52.40	56.00	52.40	56.00	24.65	2.46		19.82	43.32	15.64	13.32
Combined Reference																		
Sites 41, 42, 43 (WML-1, 2, 3)		MEAN		215.29	740.19	693.70	94.14	46.48	5.86	82.22	10.31	657.93	89.68		501.03	156.43	657.46	77.30
		VAR (S ²)		2247.57	10556.28	8040.84	2.87	284.67	2.87	3297.53	35.13	2609.45	35.13		3277.00	14085.09	7137.21	186.02
		SEM		27.37	59.32	51.77	0.83	9.74	0.83	33.15	3.42	28.49	3.42		33.05	68.52	48.78	8.12
		CV (%)		22.02	13.86	12.83	1.53	36.30	24.54	69.84	57.49	7.76	6.81		11.43	75.87	12.85	10.21

¹Based on 25% or 30% subsample of egg mass.
²Based on remaining 70% or 75% of egg mass.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
COMBINED DATA SUMMARY FOR FIGURES

8-VP-1 (SITE 20)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
10	20	1.17	0.06	0.00	0.00
35	23	12.33	3.90	0.00	0.00
80	40	35.00	5.00	15.30	6.60
133	40	66.43	6.80	31.74	7.30
154	40	66.59	6.70	32.74	7.00
168	46	66.76	6.70	33.24	6.70

38-VP-2 (SITE 21)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
16	21	1.00	0.80	0.00	0.00
37	23	6.00	2.20	0.00	0.00
72	36	18.00	4.40	2.67	1.00
110	38	40.50	3.80	34.67	4.80
142	41	50.50	1.90	44.00	3.80
173	40	51.83	2.30	47.50	2.70
184	40	51.83	2.30	48.00	2.40
191	46	51.83	2.30	48.17	2.30

46-VP-5 (SITE 22)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
11	21	1.00	0.40	0.00	0.00
46	35	24.00	10.10	0.00	0.00
57	38	26.67	9.60	0.33	0.20
105	41	35.17	7.70	62.17	7.20
126	27	35.67	7.60	64.00	7.40
130	ND	36.00	7.40	64.00	7.40

18-VP-2 (SITE 27)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
10	22	2.60	1.90	0.00	0.00
45	25	25.20	6.20	0.00	0.00
73	30	47.00	7.60	0.00	0.00
104	32	60.20	9.90	0.80	0.60
135	31	71.60	7.50	2.20	1.30
156	36	82.20	3.40	2.40	1.20
164	ND	97.60	1.20	2.40	1.20

23b-VP-1 (SITE 28)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
16	21	37.33	12.10	0.00	0.00
52	32	79.33	10.80	0.00	0.00
79	38	83.67	8.20	6.17	2.30
110	42	88.00	5.60	11.17	5.10
124	ND	88.83	5.10	11.17	5.10

23b-VP-2 (SITE 29)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
10	25	8.80	4.30	0.00	0.00
42	29	54.00	14.70	0.00	0.00
80	40	68.20	11.90	8.00	2.80
101	39	78.80	7.40	13.00	5.00
143	39	82.00	5.90	17.00	5.80
154	ND	82.80	5.90	17.20	5.90

38-VP-1 (SITE 30)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
21	22	3.00	1.40	0.00	0.00
57	25	7.33	2.30	0.50	0.30
105	32	25.83	2.10	74.00	2.20
125	46	25.83	2.10	74.17	2.1

46-VP-1 (SITE 32)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
15	23	1.33	0.80	0.00	0.00
42	26	4.17	1.10	0.00	0.00
80	35	68.33	7.50	6.67	2.80
101	41	79.67	6.20	10.83	4.10
133	34	85.33	4.00	13.33	3.80
140	-	86.67	3.80	13.33	3.80

WML-1,2,3 (COMBINED)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
11	24	2.33	0.66	0.00	0.00
47	34	30.17	4.09	0.00	0.00
74	40	39.50	4.87	4.44	0.94
105	44	60.89	4.16	15.50	2.09
137	44	75.67	2.52	20.11	2.35
147	44	78.61	2.56	20.39	2.41
154	-	79.61	2.41	20.39	2.41

Data Shared with Crossover Study					
WML-1 (SITE 41)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
11	24	1.33	0.60	0.00	0.00
47	30	16.17	3.90	0.00	0.00
74	34	20.33	4.30	2.00	0.90
105	38	40.00	3.80	12.50	3.40
137	42	68.17	4.50	22.17	5.00
147	41	74.83	5.60	23.00	5.20
154	-	77.00	5.20	23.00	5.20

Data Shared with Crossover Study					
WML-2 (SITE 42)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
11	24	4.33	1.60	0.00	0.00
47	34	34.50	6.80	0.00	0.00
74	40	46.33	8.70	4.67	1.10
105	42	71.83	4.60	10.50	2.30
137	44	84.17	3.10	12.83	2.40
147	44	86.33	2.80	12.83	2.40
152	-	87.17	2.40	12.83	2.40

Data Shared with Spike Study					
WML-3 (SITE 43)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM.	SEM
0	17	0.00	0.00	0.00	0.00
11	24	1.33	0.50	0.00	0.00
47	34	39.83	6.90	0.00	0.00
74	40	51.83	5.90	7.83	2.00
105	44	70.83	3.10	23.50	2.80
126	44	73.83	2.80	25.33	3.00
132	-	74.67	3.00	25.33	3.00

Comments: 1. % mortality and % metamorphosis are based on total number of dead and metamorphosed larvae on a given study day divided by the initial number of larvae at beginning of study.
2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given site on a given study day.
In some cases, stage decreases during the latter part of the study due to metamorphosis and/or death.

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FEL - Lower Houston River Project

FEL - Lower Housatonic River Project

FEL - Lower Houstonie River Project

Note: Although egg masses were not observed for the same number of days, cumulative % mortality and metamorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responder.

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 21 (38-VP-2)

[illegible]

FEL - Lower Houston River Project

FEL - Lower Houstonia River Project

TREL - Lower Houstonie River Project

FEL - Lower Houston River Project

THEORY AND PRACTICE OF THE

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 22 (46-VP-5)

Note: Although egg masses were not observed for the same number of days cumulative % mortality and metamorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I RAMA *symodes* MORTALITY/METAMORPH DATA
SITE 27 (18-VF-2)

DATE	DAY	EM02-A			EM02-B			EM02-C			EM02-D			CUMUL			EGG MASS MORTALITY STATISTICS			EGG MASS METAMORPH STATISTICS		
		NO.	DEAD	ALIVE	NO.	DEAD	ALIVE	NO.	DEAD	ALIVE	NO.	DEAD	ALIVE	NO.	DEAD	ALIVE	MEAN OF % VAR	SEM	CV (%)	MEAN OF % VAR	SEM	CV (%)
4/1/2000	0	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/12/2000	1	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/19/2000	2	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/26/2000	3	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/15/2000	4	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/17/2000	6	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/18/2000	7	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/19/2000	8	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/20/2000	9	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/21/2000	10	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/22/2000	11	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/23/2000	12	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/24/2000	13	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/25/2000	14	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/26/2000	15	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/27/2000	16	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/28/2000	17	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/29/2000	18	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
4/30/2000	19	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/1/2000	20	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/2/2000	21	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/3/2000	22	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/4/2000	23	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/5/2000	24	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/6/2000	25	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/7/2000	26	0	0	25	0	0	25	0	0	25	0	0	25	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00
5/8/2000	27	1	1	24	0	0	24	0	0	24	0	0	24	0	0	24	0.00	0.00	0.00	0.00	0.00	0.00
5/9/2000	28	0	0	24	0	0	24	0	0	24	0	0	24	0	0	24	0.00	0.00	0.00	0.00	0.00	0.00
5/10/2000	29	0	0	24	0	0	24	0	0	24	0	0	24	0	0	24	0.00	0.00	0.00	0.00	0.00	0.00
5/11/2000	30	1	1	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/12/2000	31	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/13/2000	32	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/14/2000	33	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/15/2000	34	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/16/2000	35	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/17/2000	36	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/18/2000	37	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/19/2000	38	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/20/2000	39	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/21/2000	40	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/22/2000	41	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/23/2000	42	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/24/2000	43	0	0	23	0	0	23	0	0	23	0	0	23	0	0	23	0.00	0.00	0.00	0.00	0.00	0.00
5/25/2000	44	1	1	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/26/2000	45	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2000	46	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/28/2000	47	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/29/2000	48	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/30/2000	49	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
5/31/2000	50	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2000	51	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/2/2000	52	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/3/2000	53	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/4/2000	54	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/5/2000	55	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/6/2000	56	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/7/2000	57	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/8/2000	58	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/9/2000	59	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/10/2000	60	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/11/2000	61	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/12/2000	62	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/13/2000	63	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/14/2000	64	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/15/2000	65	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/16/2000	66	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/17/2000	67	0	0	22	0	0	22	0	0	22	0	0	22	0	0	22	0.00	0.00	0.00	0.00	0.00	0.00
6/18/2000	68	0	0	22	0	0	22	0														

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2009
PHASE I: RAMA *syriaca* MORTALITY/METAMORPH DATA
SITE 28 (23b-VP-1)

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I: *RAIA sylvatica* MORTALITY/METAMORPH DATA
SITE 28 (23b-VP-1)

DATE		EM03-A				EM03-B				EM03-C				EM03-D				MORTALITY STATISTICS				EGG MASS				METAMORPH STATISTICS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO	CUMUL	NO	DEAD	ALIVE	NO

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *RANA SYLVATICA* MORTALITY/METAMORPH DATA
SITE 29 (23b-VP-2)

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I *Rana sylvatica* MORTALITY/METAMORPH DATA
SITE 29 (23b-4P-2)

DATE	DAY	EM04-A				EM04-B				EM04-C				EM04-D				MORTALITY STATISTICS				EGG MASS METAMORPH STATISTICS			
		NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. METAM.	CUMUL. NO. METAM.	NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. METAM.	CUMUL. NO. METAM.	% CUMUL. MORT.	% CUMUL. METAM.	NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. METAM.	MEAN OF % VAR (SD)	SEM	CV (%)	MEAN OF % VAR (SD)	SEM	CV (%)	NO.	NO.
4/10/2000	1	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/11/2000	3	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/12/2000	1	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/13/2000	4	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/14/2000	5	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/15/2000	8	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/16/2000	8	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/18/2000	9	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/20/2000	10	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/21/2000	11	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/23/2000	14	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/25/2000	15	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/26/2000	16	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/27/2000	17	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
4/28/2000	18	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/1/2000	21	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/2/2000	22	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/3/2000	23	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/4/2000	24	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/6/2000	26	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/8/2000	28	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/9/2000	29	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/10/2000	30	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/11/2000	31	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/12/2000	32	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/15/2000	35	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/17/2000	37	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/18/2000	38	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/19/2000	39	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/20/2000	40	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/22/2000	42	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/23/2000	43	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/24/2000	44	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/26/2000	46	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/30/2000	50	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
5/31/2000	51	0	0	1	0	0	0	0	0	0	0	0.00	0.00	0	0	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0	0
6/1/2000	52	0	0	1	1	1	0	0	0	0	0	0.00	100.00	0	0	0	1	0.00	0.00	0.00	0.00	0.00	0.00	0	0

EM04 DATA FROM SITE 28 EXCLUDED FROM STUDY. INITIAL LIVE COUNT OF ONE IS NOT A REPRESENTATIVE NUMBER. THE RESULTING 0% MORTALITY AND 100% METAMORPHOSIS SKEWS OVERALL RESULTS FOR SITE 28.

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For the same number of days, mortality and metamorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I RAINA *spylaeica* MORTALITY/METAMORPH DATA
SITE 30 (38-VP-1)

DATE	DAY	EM2-A				EM2-B				EM2-C				EM2-D				EGG MASS MORTALITY STATISTICS				EGG MASS METAMORPH STATISTICS			
		NO.	CUMUL.	NO.	ALIVE	NO.	DEAD	NO.	ALIVE	NO.	DEAD	NO.	ALIVE	NO.	DEAD	NO.	ALIVE	NO.	DEAD	NO.	ALIVE	NO.	DEAD	NO.	ALIVE
4/10/2000	4	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/11/2000	5	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/12/2000	6	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/13/2000	7	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/14/2000	8	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/15/2000	9	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/16/2000	10	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/17/2000	11	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/18/2000	12	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/19/2000	13	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/20/2000	14	0	0	25	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/21/2000	15	1	1	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/22/2000	16	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/23/2000	17	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/24/2000	18	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/25/2000	19	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/26/2000	20	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/27/2000	21	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/28/2000	22	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/29/2000	23	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4/30/2000	24	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/1/2000	25	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/2/2000	26	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/3/2000	27	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/4/2000	28	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/5/2000	29	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/6/2000	30	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/7/2000	31	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/8/2000	32	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/9/2000	33	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/10/2000	34	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/11/2000	35	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/12/2000	36	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/13/2000	37	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/14/2000	38	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/15/2000	39	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/16/2000	40	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/17/2000	41	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/18/2000	42	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/19/2000	43	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/20/2000	44	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/21/2000	45	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/22/2000	46	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/23/2000	47	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/24/2000	48	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/25/2000	49	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/26/2000	50	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/27/2000	51	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/28/2000	52	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/29/2000	53	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/30/2000	54	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5/31/2000	55	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/1/2000	56	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/2/2000	57	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/3/2000	58	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/4/2000	59	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/5/2000	60	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/6/2000	61	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/7/2000	62	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/8/2000	63	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/9/2000	64	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/10/2000	65	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/11/2000	66	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/12/2000	67	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/13/2000	68	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/14/2000	69	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/15/2000	70	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/16/2000	71	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/17/2000	72	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/18/2000	73	0	0	24	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6/19/2000	74	0	0	24	0	0	0	0	25</																

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I: RANA *synaetia* MORTALITY/METAMORPH DATA
SITE 32 (46-VP-1)

DATE	DAY	EM61-A				EM61-B				EM61-C				EM61-D				EGG MASS MORTALITY STATISTICS				EGG MASS METAMORPH STATISTICS			
		NO.	CUMUL.	NO.	NO.	CUMUL.	NO.	NO.	NO.	CUMUL.	NO.	NO.	NO.	CUMUL.	NO.	NO.	NO.	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)	MEAN OF % VAR 152 SEM CV (%)
		DEAD	DEAD	ALIVE	ALIVE	DEAD	DEAD	ALIVE	ALIVE	DEAD	DEAD	ALIVE	ALIVE	DEAD	DEAD	ALIVE	ALIVE								
4/10/2000	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/11/2000	2	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/13/2000	4	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/14/2000	5	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/15/2000	7	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/17/2000	9	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/18/2000	8	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/19/2000	9	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/20/2000	9	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/21/2000	11	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/22/2000	11	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/23/2000	14	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/25/2000	15	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/26/2000	16	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/27/2000	17	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/28/2000	18	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
4/29/2000	21	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/1/2000	22	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/2/2000	23	1	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/3/2000	24	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/4/2000	25	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/5/2000	26	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/6/2000	26	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/7/2000	29	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/8/2000	30	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/10/2000	31	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/12/2000	32	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/13/2000	32	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/14/2000	33	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/16/2000	36	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/18/2000	39	0	1	24	0	0	0	0	0	0	0	24	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/19/2000	39	1	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/20/2000	42	0	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/21/2000	43	0	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/22/2000	43	0	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/23/2000	46	0	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/24/2000	46	0	2	23	0	0	0	0	0	0	0	23	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/25/2000	52	0	3	22	0	0	0	0	0	0	0	22	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/26/2000	52	0	3	22	0	0	0	0	0	0	0	22	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/27/2000	57	4	7	18	0	0	0	0	0	0	0	18	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/28/2000	58	2	9	16	0	0	0	0	0	0	0	16	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/29/2000	58	2	9	16	0	0	0	0	0	0	0	16	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/30/2000	66	10	20	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
5/31/2000	66	10	20	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/1/2000	70	4	24	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/2/2000	71	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/3/2000	72	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/4/2000	73	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/5/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/6/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/7/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/8/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/9/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/10/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/11/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/12/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/13/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/14/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/15/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/16/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/17/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/18/2000	74	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	na
6/19																									

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HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I RAMA *stylacea* MORTALITY/METAMORPH DATA
SITE 32 (46-VP-1)

DATE		EMM-A				EMM-B				EMM-C				EMM-D				EGG MASS				EGG MASS			
		NO	CUMUL	NO	%	NO	CUMUL	NO	%	NO	CUMUL	NO	%	NO	CUMUL	NO	%	NO	CUMUL	NO	%	NO	%		
4/10/2000	2	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/13/2000	3	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/14/2000	4	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/15/2000	5	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/16/2000	6	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/17/2000	7	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/18/2000	8	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/19/2000	9	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/20/2000	10	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/21/2000	11	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/22/2000	12	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/23/2000	13	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/24/2000	14	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/25/2000	15	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/26/2000	16	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/27/2000	17	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/28/2000	18	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/29/2000	19	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
4/30/2000	20	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/1/2000	21	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/2/2000	22	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/3/2000	23	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/4/2000	24	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/5/2000	25	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/6/2000	26	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/7/2000	27	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/8/2000	28	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/9/2000	29	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/10/2000	30	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/11/2000	31	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/12/2000	32	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/13/2000	33	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/14/2000	34	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/15/2000	35	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/16/2000	36	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/17/2000	37	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/18/2000	38	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/19/2000	39	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/20/2000	40	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/21/2000	41	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/22/2000	42	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/23/2000	43	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/24/2000	44	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/25/2000	45	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/26/2000	46	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/27/2000	47	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/28/2000	48	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/29/2000	49	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/30/2000	50	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
5/31/2000	51	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/1/2000	52	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/2/2000	53	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/3/2000	54	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/4/2000	55	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/5/2000	56	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/6/2000	57	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/7/2000	58	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/8/2000	59	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/9/2000	60	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/10/2000	61	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0.00		
6/11/2000	62	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0					

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2008
PHASE I RANA *synaloca* MORTALITY/METAMORPH DATA
SITE 32 (46-VP-1)

DATE		EMMS-A				EMMS-B				EMMS-C				EMMS-D				EGG MASS		EGG MASS		METAMORPH STATISTICS	
		NO. DEAD	CUMUL. DEAD	NO. ALIVE	%	NO. DEAD	CUMUL. DEAD	NO. ALIVE	%	NO. DEAD	CUMUL. DEAD	NO. ALIVE	%	NO. DEAD	CUMUL. DEAD	NO. ALIVE	%	MEAN OF %	VAR OF %	SEMI CV (%)	MEAN OF %	VAR OF %	SEMI CV (%)
4/10/2008	0	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/12/2008	2	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/13/2008	3	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/14/2008	4	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/15/2008	5	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/16/2008	6	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/17/2008	7	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/18/2008	8	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/19/2008	9	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/20/2008	10	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/21/2008	11	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/22/2008	12	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/23/2008	13	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/24/2008	14	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/25/2008	15	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/26/2008	16	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/27/2008	17	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4/28/2008	18	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/1/2008	21	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/2/2008	22	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/3/2008	23	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/4/2008	24	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/5/2008	25	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/6/2008	26	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/7/2008	27	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/8/2008	28	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/9/2008	29	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/10/2008	30	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/11/2008	31	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/12/2008	32	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/13/2008	33	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/16/2008	36	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/17/2008	37	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/18/2008	38	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/19/2008	39	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/20/2008	40	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/21/2008	41	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/22/2008	42	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/23/2008	43	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/24/2008	44	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/25/2008	45	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/26/2008	46	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/27/2008	47	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/28/2008	48	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/29/2008	49	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/30/2008	50	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5/31/2008	51	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/1/2008	52	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/2/2008	53	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/3/2008	54	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/4/2008	55	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/5/2008	56	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/6/2008	57	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/7/2008	58	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/8/2008	59	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6/9/2008	60	0	0	0	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.00	0.00	0.00</			

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2008
PHASE I RANA *synalca* MORTALITY/METAMORPH DATA
SITE 41 (WML-1) (Data shared with Crocower Study)

DATE		EM01-A				EM01-B				EM01-C				EM01-D				MORTALITY STATISTICS				EGG MASS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
DAY		NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	CUMUL.	NO.	CUMUL.	%	C

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I RANA SYLVATICA MORTALITY/METAMORPH DATA
SITE 42 (WMI -2) (Data shared with Crossover Study)

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I: *PANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WMI-2) (Data shared with Crossover Study)

Note: Although egg masses were not observed for the same number of days, cumulative % mortality and metamorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

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**HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* LARVAL STAGE/MALFORMATION DATA
COMBINED DATA SUMMARY FOR FIGURES**

% MALFORMED BY SITE AND STUDY DAY

8-VP-1 (SITE 20)			
DAY	STAGE	% MAL	SEM
0	17	-	-
10	20	7.11	1.0
35	23	10.24	1.0
80	40	17.97	3.1
101	40	65.84	9.3
133	40	37.50	28.9
154	40	83.33	16.7
Grand Means:		37.00	12.8

38-VP-2 (SITE 21)			
DAY	STAGE	% MAL	SEM
0	17	-	-
16	21	10.44	0.9
37	23	12.57	0.6
72	36	41.31	4.7
110	38	50.89	6.3
142	41	58.22	14.5
173	40	33.33	na
184	40	0.00	na
Grand Means:		29.54	8.4

46-VP-5 (SITE 22)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	21	16.36	1.3
46	35	36.72	4.2
57	38	32.56	2.3
105	41	28.33	19.6
126	27	50.00	na
Grand Means:		32.79	5.5

18-VP-2 (SITE 27)			
DAY	STAGE	% MAL	SEM
0	17	-	-
10	22	16.56	1.3
45	25	25.98	1.9
73	30	41.30	4.5
104	32	30.34	2.9
135	31	35.80	5.8
156	36	55.56	22.2
Grand Means:		34.26	5.5

23b-VP-1 (SITE 28)			
DAY	STAGE	% MAL	SEM
0	17	-	-
16	21	2.44	0.7
52	32	3.82	1.9
79	38	3.68	1.1
110	42	0.00	na
118	42	0.00	na
Grand Means:		1.99	0.8

23b-VP-2 (SITE 29)			
DAY	STAGE	% MAL	SEM
0	17	-	-
10	25	2.89	0.7
42	29	5.26	2.4
80	40	20.38	17.7
101	39	15.40	5.9
143	39	0.00	na
Grand Means:		8.79	3.9

38-VP-1 (SITE 30)			
DAY	STAGE	% MAL	SEM
0	17	-	-
21	22	30.98	1.2
36	25	32.37	3.9
57	25	46.67	3.6
105	32	0.00	na
Grand Means:		27.50	9.8

46-VP-1 (SITE 32)			
DAY	STAGE	% MAL	SEM
0	17	-	-
15	23	3.88	0.7
42	26	10.46	1.5
80	35	11.81	4.2
101	41	14.90	8.9
133	34	10.00	10.0
Grand Means:		10.21	1.8

WML-1,2,3 (COMBINED)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.62	0.1
47	34	0.75	0.6
74	40	1.68	0.4
105	44	0.68	0.7
137	44	0.00	na
147	44	0.00	na
Grand Means:		0.65	0.3

Data Shared with Crossover Study WML-1 (SITE 41)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.85	0.3
47	30	1.85	0.6
74	34	2.31	0.4
105	38	2.04	0.8
137	42	0.00	na
147	41	0.00	na
Grand Means:		1.18	0.4

Data Shared with Crossover Study WML-2 (SITE 42)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.51	0.2
47	34	0.00	0.0
74	40	1.06	0.5
105	42	0.00	na
137	44	0.00	na
147	44	0.00	na
Grand Means:		0.26	0.2

Data Shared with Spike Study WML-3 (SITE 43)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.50	0.3
47	34	0.40	0.4
74	40	1.67	1.7
105	44	0.00	na
126	44	0.00	na
Grand Means:		0.51	0.3

Comments:

1. % malformations are based on total number of malformed larvae per total number of surviving larvae on a given study day.
2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given site on a given study day. In some cases, stage decreases during the latter part of the study due to metamorphosis and/or death.

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 20 (8-VP-1)

STAGE 20 4/20/2000, DAY 10

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY			
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED				
EM06 A	25	3	12.00		2			1		1								MEAN of %	10.00		
B	25	4	16.00		3	1		1			1							Var (S2)	26.7		
C	25	2	8.00		2			2			1							SEM	2.6		
D	25	1	4.00		1			1			1							CV (%)	51.6		
Avg % Malformed				10.00	8.00	1.00	0.00	5.00	0.00	1.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM07 A	25	0	0.00															MEAN of %	4.04		
B	25	1	4.00		1	1	1				1							Var (S2)	10.7		
C	24	1	4.17		1		1			1	1							SEM	1.6		
D	25	2	8.00		2					2	2							CV (%)	80.8		
Avg % Malformed				4.04	4.04	1.00	2.04	0.00	0.00	3.04	4.04	0.00	0.00	0.00	0.00	0.00	0.00				
1-EM07 A	25	1	4.00		1			1			1							MEAN of %	7.00		
B	25	2	8.00	1	2			2			1							Var (S2)	4.0		
C	25	2	8.00		2			2		1	2							SEM	1.0		
D	25	2	8.00		2	2		1		2	2							CV (%)	28.6		
Avg % Malformed				7.00	1.00	7.00	2.00	6.00	0.00	3.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM08 A	23	3	13.04		3					3	3							MEAN of %	6.52		
B	11	0	0.00															Var (S2)	85.1		
Avg % Malformed				6.52	6.52	0.00	0.00	0.00	0.00	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.00		SEM	6.5	
Avg % Malformed				6.52	6.52	0.00	0.00	0.00	0.00	6.52	6.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00		CV (%)	141.4
EM09 A	25	3	12.00	1	2					3	2							MEAN of %	10.08		
B	25	1	4.00		1					1	1							Var (S2)	26.3		
C	25	4	16.00	2	4					2	3							SEM	2.6		
D	24	2	8.33	2	1					2	2							CV (%)	50.8		
Avg % Malformed				10.08	5.08	8.04	0.00	0.00	0.00	8.08	8.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
EM10 A	24	1	4.17		1			1		1								MEAN of %	5.04		
B	25	0	0.00															Var (S2)	14.6		
C	25	2	8.00		2			2			2							SEM	1.9		
D	25	2	8.00	1	2			2			2							CV (%)	75.7		
Avg % Malformed				5.04	1.00	5.04	0.00	0.00	5.04	0.00	1.04	4.00	0.00	0.00	0.00	0.00	0.00	0.00			
Total No.:	531	39		7	35	4	2	16	0	19	28	0	0	0	0	0	0				
Avg of Means				7.11	1.18	6.44	0.67	0.34	2.67	3.78	5.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Var (S2)				6.2	3.9	2.6	0.7	0.7	8.7	0.0	8.5	3.7	0.0	0.0	0.0	0.0	0.0	0.0			
SEM				1.0	0.8	0.7	0.3	0.3	1.2	0.0	1.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0			
CV (%)				35.1	167.2	25.1	122.5	244.9	110.4	na	77.0	36.3	na	na	na	na	na	na			

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 20 (8-VP-1)

STAGE 23 5/15/2000, DAY 35

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	1	0	0.00															MEAN of %	11.50
B	20	2	10.00		2			2			2							Var (S2)	75.7
C	25	5	20.00	2	5			2			5							SEM	4.3
D	25	4	16.00		4			4			4							CV (%)	75.6
		Avg % Malformed	11.50	2.00	11.50	0.00	0.00	8.50	0.00	0.00	11.50	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 A	22	3	13.64	1	3			3	2		2							MEAN of %	7.68
B	21	1	4.76		1			1	1									Var (S2)	19.3
C	24	2	8.33	2	2				2		2							SEM	2.2
D	25	1	4.00		1				1		1							CV (%)	57.2
		Avg % Malformed	7.68	3.22	7.68	0.00	0.00	4.60	6.55	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM07 A	15	2	13.33		2			2			2							MEAN of %	10.58
B	24	3	12.50		3			3	1		3							Var (S2)	19.4
C	25	1	4.00		1						1							SEM	2.2
D	24	3	12.50	2	3			2	3		2							CV (%)	41.6
		Avg % Malformed	10.58	2.08	10.58	0.00	0.00	8.54	4.17	0.00	9.54	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	21	4	19.05	1	4				2		3							MEAN of %	9.52
B	11	0	0.00															Var (S2)	181.4
																		SEM	9.5
																		CV (%)	141.4
		Avg % Malformed	9.52	2.38	9.52	0.00	0.00	0.00	4.76	0.00	7.14	0.00	0.00	0.00	0.00	0.00	0.00		
EM09 A	25	3	12.00		2			2	1	1	3							MEAN of %	8.08
B	25	1	4.00		1			1	1	1	1							Var (S2)	10.7
C	25	2	8.00		1			2	1	2	2							SEM	1.6
D	24	2	8.33	1	1			1	2	1	2							CV (%)	40.5
		Avg % Malformed	8.08	1.04	5.04	0.00	0.00	6.04	5.08	5.04	8.08	0.00	0.00	0.00	0.00	0.00	0.00		
EM10 A	10	2	20.00	2	1			2	2	2	2							MEAN of %	14.04
B	25	5	20.00	1	5			2	2	4	3							Var (S2)	57.6
C	25	3	12.00	1	3			2	2	1	2							SEM	3.8
D	24	1	4.17		1			1			1							CV (%)	54.0
		Avg % Malformed	14.04	7.00	11.54	0.00	0.00	10.04	9.00	10.00	11.04	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	466	50		13	46	0	0	32	23	12	43	0	0	0	0	0	0		
		Avg of Means	10.24	2.95	9.31	0.00	0.00	6.29	4.93	2.51	8.78	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	5.6	4.4	6.5	0.0	0.0	13.3	8.8	17.5	5.6	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	1.0	0.9	1.0	0.0	0.0	1.5	1.2	1.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	23.1	71.2	27.3	na	na	58.0	60.3	167.1	27.0	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 20 (S-VP-1)

STAGE 37-40 6/29/2000, DAY 80

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 B	11	2	18.18		2			2			2							MEAN of % Var (S2) SEM CV (%)	31.62 181.0 7.8 42.6
C	15	4	26.67		4			3		1	4		4						
D	2	1	50.00													1			
Avg % Malformed			31.62	0.00	14.95	0.00	0.00	12.73	0.00	2.22	14.95	0.00	8.89	0.00	0.00	16.67	0.00		
EM07 A	15	2	13.33		2			2		1	2							MEAN of % Var (S2) SEM CV (%)	14.66 19.3 2.2 30.0
B	10	2	20.00		1			1			2								
C	19	3	15.79		3			3			3		2						
D	21	2	9.52		2			2			2								
Avg % Malformed			14.66	0.00	12.16	0.00	0.00	12.16	0.00	1.67	14.66	0.00	2.63	0.00	0.00	0.00	0.00		
1-EM07 A	6	1	16.67												1			MEAN of % Var (S2) SEM CV (%)	13.38 84.8 4.6 68.9
B	19	4	21.05		4			4			4								
C	5	0	0.00																
D	19	3	15.79		3			2			3		1						
Avg % Malformed			13.38	0.00	9.21	0.00	0.00	7.89	0.00	0.00	9.21	0.00	1.32	0.00	4.17	0.00	0.00		
EM08A	8	3	37.50		3			1			2							MEAN of % Var (S2) SEM CV (%)	18.75 703.1 18.8 141.4
B	4	0	0.00																
Avg % Malformed			18.75	0.00	18.75	0.00	0.00	6.25	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	22	4	18.18		4			2			3		1					MEAN of % Var (S2) SEM CV (%)	19.96 13.1 1.8 18.2
B	8	2	25.00	1	2						2								
C	16	3	18.67		3			3			2								
D	10	2	20.00		2			2			2		1						
Avg % Malformed			19.96	3.13	19.96	0.00	0.00	11.44	0.00	0.00	17.44	0.00	3.64	0.00	0.00	0.00	0.00		
EM10 A	1	0	0.00		2			2			3							MEAN of % Var (S2) SEM CV (%)	9.48 43.5 3.3 69.6
B	22	3	13.64		2			2			2				2				
C	20	2	10.00	1	3			3			3								
D	21	3	14.29																
Avg % Malformed			9.48	1.25	56.02	0.00	0.00	56.02	0.00	0.00	81.02	0.00	0.00	0.00	2.27	0.00	0.00		
Total No.:	276	46		2	42	0	0	34	0	2	41	0	9	0	3	1	0		
Avg of Means			17.97	0.73	21.84	0.00	0.00	17.75	0.00	0.65	24.96	0.00	2.75	0.00	1.07	2.78	0.00		
Var (S2)			59.0	1.6	295.4	0.0	0.0	358.1	0.0	1.0	761.8	0.0	11.1	0.0	3.1	46.3	0.0		
SEM			3.1	0.5	7.0	0.0	0.0	7.7	0.0	0.4	11.3	0.0	1.4	0.0	0.7	2.8	0.0		
CV (%)			42.7	175.0	78.8	na	na	106.6	na	na	110.6	na	na	na	na	244.9	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 20 (8-VP-1)

STAGE 36-40 7/20/2000, DAY 101

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 B	2	2	100.00		2	2		2		1	2							MEAN of %	100.00
C	2	2	100.00		2	2		2		1	2							Var (S2)	0.0
D	1	1	100.00		1	1		1		1	1							SEM	0.0
																		CV (%)	0.0
		Avg % Malformed	100.00	0.00	100.00	100.00	0.00	100.00	0.00	66.67	100.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 A	2	1	50.00		1	1		1		1	1							MEAN of %	89.79
B	2	2	100.00		2	2		2		2	2							Var (S2)	455.7
C	8	5	62.50		5	3		5		3	3							SEM	10.7
D	15	10	66.67		10	7		6		5	6							CV (%)	30.6
		Avg % Malformed	69.79	0.00	69.79	58.54	0.00	63.13	0.00	55.21	56.88	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM07 B	9	4	44.44		4	2		4		4	4							MEAN of %	59.72
D	4	3	75.00		3	3		3		1	3							Var (S2)	466.8
																		SEM	15.3
																		CV (%)	36.2
		Avg % Malformed	59.72	0.00	59.72	48.61	0.00	59.72	0.00	34.72	59.72	0.00	0.00	0.00	0.00	0.00	0.00		
EM08																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
EM09 A	16	9	56.25		9	5		5		6	5				2			MEAN of %	52.08
B	3	2	66.67		2	2		2		1	2							Var (S2)	290.8
D	3	1	33.33		1						1							SEM	9.8
																		CV (%)	32.7
		Avg % Malformed	52.08	0.00	52.08	32.64	0.00	32.64	0.00	23.61	43.75	0.00	0.00	0.00	4.17	0.00	0.00		
EM10 B	11	5	45.45		5	4		3			3							MEAN of %	47.62
C	7	3	42.86		3	1		1			1							Var (S2)	37.7
D	11	6	54.55		6	3		5		1	6							SEM	3.5
																		CV (%)	12.9
		Avg % Malformed	47.62	0.00	47.62	25.97	0.00	29.00	0.00	3.03	32.03	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	96	56		0	56	38	0	42	0	27	42	0	0	0	2	0	0		
		Avg of Means	65.84	0.00	65.84	53.15	0.00	56.90	0.00	36.65	58.48	0.00	0.00	0.00	0.83	0.00	0.00		
		Var (S2)	435.3	0.0	435.3	851.0	0.0	817.8	0.0	637.4	661.1	0.0	0.0	0.0	3.5	0.0	0.0		
		SEM	9.3	0.0	9.3	13.0	0.0	12.8	0.0	11.3	11.5	0.0	0.0	0.0	0.8	0.0	0.0		
		CV (%)	31.7	na	31.7	54.9	na	50.3	na	68.9	44.0	na	na	na	na	na	na		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														SEVERE	STUNTED	MEAN of % Var (S2) SEM CV (%)	na na na na
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB						
EM06																					
		Avg % Malformed																			
EM07 C	1	1	100.00		1																
		Avg % Malformed	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
1-EM07 B	3	0	0.00																		
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM08																					
		Avg % Malformed																			
EM09 A	6	3	50.00		2			2		1	3					2					
		Avg % Malformed	50.00	0.00	33.33	0.00	0.00	33.33	0.00	16.67	50.00	0.00	0.00	0.00	33.33	0.00	0.00				
EM10 B	1	0	0.00																		
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Total No.:	11	4		0	3	0	0	2	0	1	3	0	0	0	2	0	0				
		Avg of Means	37.50	0.00	33.33	0.00	0.00	8.33	0.00	4.17	12.50	0.00	0.00	0.00	8.33	0.00	0.00				
		Var (S2)	2291.7	0.0	2222.2	0.0	0.0	277.8	0.0	69.4	625.0	0.0	0.0	0.0	277.8	0.0	0.0				
		SEM	23.9	0.0	23.6	0.0	0.0	8.3	0.0	4.2	12.5	0.0	0.0	0.0	8.3	0.0	0.0				
		CV (%)	127.7	na	141.4	na	na	200.0	na	200.0	200.0	na	na	na	200.0	na	na				

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
EM07																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
1-EM07 B	1	1	100.00		1			1		1								MEAN of % Var (S2) SEM CV (%)	100.00 na na na
Avg % Malformed			100.00	0.00	100.00	0.00	0.00	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM08																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
EM09 A	3	2	66.67		1			2		1					2			MEAN of % Var (S2) SEM CV (%)	66.67 na na na
Avg % Malformed			66.67	0.00	33.33	0.00	0.00	66.67	0.00	33.33	0.00	0.00	0.00	0.00	66.67	0.00	0.00		
EM10																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
Total No.::	4	3		0	2	0	0	3	0	2	0	0	0	0	2	0	0		
Avg of Means			83.33	0.00	66.67	0.00	0.00	83.33	0.00	66.67	0.00	0.00	0.00	0.00	33.33	0.00	0.00		
Var (S2)			555.6	0.0	2222.2	0.0	0.0	555.6	0.0	2222.2	0.0	0.0	0.0	0.0	2222.2	0.0	0.0		
SEM			16.7	0.0	33.3	0.0	0.0	16.7	0.0	33.3	0.0	0.0	0.0	0.0	33.3	0.0	0.0		
CV (%)			28.3	na	70.7	na	na	28.3	na	70.7	na	na	na	na	141.4	na	na		

SAMPLE ID	NUMBER MALFORMED	% MAL.	MALFORMATIONS OBSERVED FOR EACH FERTILIZATION FEEDBACK													
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED
EM06	33		2	30	6	0	23	0	5	25	0	4	0	0	1	0
EM07	39		3	38	14	2	26	6	15	30	0	2	0	0	0	0
1-EM07	32		3	31	7	0	27	4	9	28	0	1	0	1	0	0
EM08	10		1	10	0	0	1	2	3	8	0	0	0	0	0	0
EM09	46		7	39	7	0	24	5	22	36	0	2	0	6	0	0
EM10	38		6	36	8	0	28	6	9	30	0	0	0	2	0	0
TOTAL NO.	198		22	184	42	2	129	23	63	157	0	9	0	9	1	0
	Grand Means	37.00	0.81	33.91	8.97	0.06	29.21	0.82	19.07	18.33	0.00	0.46	0.00	7.26	0.46	0.00
	Var (S2)	990.1	1.3	719.7	468.6	0.0	1098.6	4.0	728.8	457.5	0.0	1.3	0.0	173.2	1.3	0.0
	SEM	12.8	0.5	11.0	8.8	0.1	13.5	0.8	11.0	8.7	0.0	0.5	0.0	5.4	0.5	0.0
	CV (%)	85.0	142.9	79.1	241.3	244.9	113.5	244.9	141.6	118.7	na	244.9	na	181.2	244.9	na

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 21 (38-VP-2)

STAGE 21 4/24/2000, DAY 16

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	25	3	12.00	1	2			3			2							MEAN of % Var (S2) SEM CV (%)	10.08 4.9 1.1 22.0
B	25	2	8.00		2			2			2								
C	25	3	12.00	2	3			3		1	3								
D	24	2	8.33		2			2		2	2								
		Avg % Malformed	10.08	3.00	9.08	0.00	0.00	10.08	0.00	3.08	9.08	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM06 A	23	2	8.70	2	2			2										MEAN of % Var (S2) SEM CV (%)	10.17 25.9 2.5 50.0
B	25	4	16.00	3	2			4			2		1						
C	25	1	4.00		1			1			1								
D	25	3	12.00		3			3			2								
		Avg % Malformed	10.17	5.17	8.17	0.00	0.00	10.17	0.00	0.00	5.00	0.00	1.00	0.00	0.00	0.00	0.00		
EM07 A	24	4	16.67	1	3			4		2	3							MEAN of % Var (S2) SEM CV (%)	12.17 23.2 2.4 39.6
B	25	2	8.00		2			1		2	2								
C	25	4	16.00		4			4		3	4								
D	25	2	8.00	1	2			2		2	1								
		Avg % Malformed	12.17	2.04	11.13	0.00	0.00	11.17	0.00	9.08	10.13	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	25	3	12.00		3			3		3	1							MEAN of % Var (S2) SEM CV (%)	14.00 26.7 2.6 36.9
B	25	2	8.00	2	2	1		2		2	2								
C	25	5	20.00	3	5	3		4		3	4								
D	25	4	16.00	4	4	3		2		3	4								
		Avg % Malformed	14.00	9.00	14.00	7.00	0.00	11.00	0.00	11.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM09 A	25	3	12.00	1	3					1	2	1						MEAN of % Var (S2) SEM CV (%)	8.00 10.7 1.6 40.8
B	25	1	4.00		1			1	1		1								
C	25	2	8.00		2			1	2		2								
D	25	2	8.00		2			2		1	2								
		Avg % Malformed	8.00	1.00	8.00	0.00	0.00	4.00	3.00	2.00	7.00	1.00	0.00	0.00	0.00	0.00	0.00		
EM10 A	25	0	0.00															MEAN of % Var (S2) SEM CV (%)	8.21 33.4 2.9 70.4
B	24	2	8.33		2	1		2		2	2								
C	24	3	12.50		3	1		2		2	3								
D	25	3	12.00		3	2		3		1	3			1					
		Avg % Malformed	8.21	0.00	8.21	4.08	0.00	7.17	0.00	5.17	8.21	0.00	0.00	1.00	0.00	0.00	0.00		
Total No.:	594	62		20	58	11	0	53	3	30	50	1	1	1	0	0	0		
		Avg of Means	10.44	3.37	9.77	1.85	0.00	8.93	0.50	5.06	8.40	0.17	0.17	0.17	0.00	0.00	0.00		
		Var (S2)	5.4	10.8	5.7	9.0	0.0	7.9	1.5	18.1	4.8	0.2	0.2	0.2	0.0	0.0	0.0		
		SEM	0.9	1.3	1.0	1.2	0.0	1.1	0.5	1.7	0.9	0.2	0.2	0.2	0.0	0.0	0.0		
		CV (%)	22.2	97.4	24.4	162.8	na	31.5	244.9	84.1	25.9	244.9	244.9	244.9	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 21 (3&-VP-2)

STAGE 23 5/15/2000, DAY 37

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	24	3	12.50	1	3			3		3	3							MEAN of %	14.99
B	23	2	8.70		2			2			2							Var (S2)	28.4
C	18	3	18.75		3			3		2	3							SEM	2.7
D	20	4	20.00	1	2			4		4	4							CV (%)	35.5
Avg % Malformed				2.29	12.49	0.00	0.00	14.99	0.00	11.25	14.99	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM06 A	20	3	15.00	1	2			1		2	2							MEAN of %	12.75
B	25	4	16.00		4			3		4	4							Var (S2)	12.9
C	25	3	12.00	2	3			2		1	2							SEM	1.8
D	25	2	8.00	1	2			2		2	2							CV (%)	28.2
Avg % Malformed				4.25	11.50	0.00	0.00	8.25	0.00	9.50	10.50	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 A	24	3	12.50		3			2		1	3							MEAN of %	11.47
B	23	2	8.70		2			2		1	2		1					Var (S2)	15.9
C	24	4	16.67		4			3		2	4		2					SEM	2.0
D	25	2	8.00		2			2			2							CV (%)	34.8
Avg % Malformed				0.00	11.47	0.00	0.00	9.38	0.00	4.21	11.47	0.00	3.17	0.00	0.00	0.00	0.00		
EM08 A	25	3	12.00		3			2		2	3		3					MEAN of %	11.14
B	25	4	16.00		3			4		2	4		1					Var (S2)	22.9
C	22	1	4.55		1													SEM	2.4
D	25	3	12.00		2			3			3		2					CV (%)	42.9
Avg % Malformed				0.00	9.14	0.00	0.00	9.00	0.00	4.00	10.00	0.00	6.00	0.00	0.00	0.00	0.00		
EM09 A	25	2	8.00		2			1		1								MEAN of %	13.76
B	25	3	12.00		3			2		1	2							Var (S2)	23.1
C	21	4	19.05		3			3		2	3							SEM	2.4
D	25	4	16.00	2	4			2		2	1							CV (%)	34.9
Avg % Malformed				2.00	12.57	0.00	0.00	8.57	0.00	6.38	6.57	0.00	0.00	0.00	0.00	0.00	0.00		
EM10 A	25	2	8.00		2			2			2							MEAN of %	11.30
B	24	3	12.50		3			2		2	3							Var (S2)	13.7
C	23	2	8.70		2			2		2	2							SEM	1.9
D	25	4	16.00		4			2		3	2							CV (%)	32.8
Avg % Malformed				0.00	11.30	0.00	0.00	8.26	0.00	7.26	9.30	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	584	70		8	64	0	0	54	0	39	58	0	9	0	0	0	0		
Avg of Means				12.57	11.41	0.00	0.00	9.74	0.00	7.10	10.47	0.00	1.53	0.00	0.00	0.00	0.00		
Var (S2)				2.4	1.5	0.0	0.0	6.8	0.0	8.3	7.6	0.0	6.4	0.0	0.0	0.0	0.0		
SEM				0.6	0.5	0.0	0.0	1.1	0.0	1.2	1.1	0.0	1.0	0.0	0.0	0.0	0.0		
CV (%)				12.4	122.3	na	na	26.8	na	40.6	26.4	na	165.6	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 21 (38-VP-2)

STAGE 34-36 6/19/2000, DAY 72

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														MEAN of % Var (S2) SEM CV (%)	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GLT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	19	5	26.32		4	2	1	3		2			3	1					
B	19	8	42.11		8	2	6	5		1									
C	15	8	53.33		4	5	3	7		2				1					
D	11	8	72.73		7	6	2	4		2	2				1				
		Avg % Malformed	48.62	0.00	38.37	27.23	18.76	31.28	0.00	11.83	4.55	0.00	3.95	3.59	0.00	0.00	0.00		
1-EM06 A	10	7	70.00		7	2	3	5		2			3						
B	23	14	60.87		12	10	6	10		3			1						
C	23	9	39.13		9	6	5	3		1									
D	22	13	59.09		10	4	6	11		6			2						
		Avg % Malformed	57.27	0.00	51.69	26.94	26.27	39.13	0.00	16.17	0.00	0.00	10.86	0.00	0.00	0.00	0.00		
EM07 A	21	7	33.33		7	7	1	3		4	2			1					
B	21	12	57.14		12	10	7	4		6	4			3					
C	23	9	39.13		9	7	8	2		3	5			2					
D	23	10	43.48		8	6	8	5		4	4			2					
		Avg % Malformed	43.27	0.00	41.10	34.37	26.92	15.94	0.00	19.51	16.93	0.00	0.00	9.11	0.00	0.00	0.00		
EM08 A	25	11	44.00		9	7	11	5		3	7								
B	24	12	50.00		12	10	9	7			9			1					
C	22	6	27.27		6	2	6	5			4			2					
D	24	11	45.83		10	3	10	7			7			3					
		Avg % Malformed	41.78	0.00	38.73	22.81	37.61	25.27	0.00	3.00	28.21	0.00	0.00	6.44	0.00	0.00	0.00		
EM09 A	22	8	36.36	2	7	3	2	5		4	4		2						
B	23	9	39.13	2	9	4	3	8		2	1		1						
C	13	4	30.77	1	4	4	2	3		1	1								
D	21	5	23.81	2	5	3	2	4			2								
		Avg % Malformed	32.52	8.75	31.38	19.02	11.76	24.91	0.00	8.64	9.94	0.00	3.36	0.00	0.00	0.00	0.00		
EM10 A	22	4	18.18	3	4	2	1	4		2	4								
B	19	4	21.05	1	4	2	3	1		1	3								
C	15	5	33.33	2	5	4	1	2		2	4								
D	16	4	25.00	1	4	3	2	4		1	4								
		Avg % Malformed	24.39	9.62	24.39	16.26	9.88	15.44	0.00	8.48	21.41	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	476	193		14	176	114	108	117	0	52	67	0	12	16	0	0	0		
		Avg of Means	41.31	3.06	37.61	24.44	21.87	25.33	0.00	11.27	13.50	0.00	3.03	3.19	0.00	0.00	0.00		
		Var (S2)	135.2	22.6	85.1	42.3	109.7	82.4	0.0	35.1	113.2	0.0	18.0	15.3	0.0	0.0	0.0		
		SEM	4.7	1.9	3.8	2.7	4.3	3.7	0.0	2.4	4.3	0.0	1.7	1.6	0.0	0.0	0.0		
		CV (%)	28.1	155.2	24.5	26.6	47.9	35.8	na	52.5	78.8	na	140.0	122.5	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 21 (38-VP-2)

STAGE 35-38 7/27/2000, DAY 110

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 C	4	3	75.00		3	2	1	2			1				2			MEAN of %	75.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed	75.00	0.00	75.00	50.00	25.00	50.00	0.00	0.00	25.00	0.00	0.00	0.00	50.00	0.00	0.00		
1-EM06 A	1	1	100.00		1	1	1											MEAN of %	44.62
B	15	6	40.00		6	5	2				3							Var (S2)	1705.7
C	13	5	38.46		5	3	2			1	3							SEM	20.7
D	1	0	0.00															CV (%)	92.6
		Avg % Malformed	44.62	0.00	44.62	39.10	32.18	0.00	0.00	1.92	10.77	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 A	4	1	25.00		1	1		1										MEAN of %	38.13
B	8	5	62.50		5	4	2	1			1							Var (S2)	314.1
C	8	2	25.00		2	2					1							SEM	8.9
D	15	6	40.00		3	4	2				3							CV (%)	46.5
		Avg % Malformed	38.13	0.00	33.13	31.67	9.58	9.38	0.00	0.00	11.25	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	21	8	38.10		7	4	3	2			4							MEAN of %	42.12
B	8	4	50.00		4	3	2				2							Var (S2)	60.0
C	9	3	33.33		3	3	1				1							SEM	3.9
D	17	8	47.06		7	6	2	3			2		1					CV (%)	18.4
		Avg % Malformed	42.12	0.00	39.46	31.29	15.54	6.79	0.00	0.00	16.73	0.00	1.47	0.00	0.00	0.00	0.00		
EM09 A	8	3	37.50		2	2	1				1		1					MEAN of %	44.38
B	5	3	60.00		2	3												Var (S2)	1176.6
C	1	0	0.00															SEM	17.2
D	5	4	80.00		4	3					1		2					CV (%)	77.3
		Avg % Malformed	44.38	0.00	36.25	36.25	3.13	0.00	0.00	0.00	8.13	0.00	13.13	0.00	0.00	0.00	0.00		
EM10 A	2	1	50.00		1	1		1										MEAN of %	61.11
B	3	1	33.33	1	1	1							1					Var (S2)	1203.7
C	1	1	100.00			1												SEM	20.0
																		CV (%)	56.8
		Avg % Malformed	61.11	11.11	27.78	61.11	0.00	16.67	0.00	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00		
Total No.:	149	65		1	57	49	19	10	0	1	23	0	5	0	2	0	0		
		Avg of Means	50.89	1.85	42.70	41.57	14.24	13.81	0.00	0.32	11.98	0.00	4.28	0.00	8.33	0.00	0.00		
		Var (S2)	201.5	20.6	282.7	138.2	157.5	353.6	0.0	0.6	70.5	0.0	37.5	0.0	416.7	0.0	0.0		
		SEM	6.3	2.0	7.5	5.3	5.6	8.4	0.0	0.4	3.8	0.0	2.7	0.0	9.1	0.0	0.0		
		CV (%)	27.9	244.9	39.4	28.3	88.1	136.2	na	244.9	70.1	na	143.0	na	244.9	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 21 (38-VP-2)

STAGE 38-41 8/28/2000, DAY 142

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 C	1	1	100.00		1	1												MEAN of %	100.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed	100.00	0.00	100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM06 B	7	4	57.14		4	4		2			2							MEAN of %	53.57
C	4	2	50.00		1			2			2							Var (S2)	25.5
																		SEM	3.6
																		CV (%)	9.4
		Avg % Malformed	53.57	0.00	41.07	28.57	0.00	39.29	0.00	0.00	39.29	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 D	3	1	33.33		1	1					1							MEAN of %	33.33
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed	33.33	0.00	33.33	33.33	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	11	6	54.55		6	3	2			4	2							MEAN of %	45.96
B	1	0	0.00															Var (S2)	1791.4
D	6	5	83.33		5	5	2	3			2		1	1				SEM	24.4
																		CV (%)	92.1
		Avg % Malformed	45.96	0.00	45.96	36.87	17.17	16.67	0.00	12.12	17.17	0.00	5.56	5.56	0.00	0.00	0.00		
EM09																		MEAN of %	
																		Var (S2)	
																		SEM	
																		CV (%)	
		Avg % Malformed																	
EM10																		MEAN of %	
																		Var (S2)	
																		SEM	
																		CV (%)	
		Avg % Malformed																	
Total No.:	33	19		0	18	14	4	7	0	4	9	0	1	1	0	0	0		
		Avg of Means	58.22	0.00	55.09	49.69	4.29	13.99	0.00	3.03	22.45	0.00	1.39	1.39	0.00	0.00	0.00		
		Var (S2)	845.6	0.0	923.4	1136.3	73.7	346.2	0.0	36.7	311.3	0.0	7.7	7.7	0.0	0.0	0.0		
		SEM	14.5	0.0	15.2	16.9	4.3	9.3	0.0	3.0	8.8	0.0	1.4	1.4	0.0	0.0	0.0		
		CV (%)	50.0	na	55.2	67.8	na	133.0	na	na	78.6	na	na	na	na	na	na		

[illegible]

[illegible]

SAMPLE ID	NUMBER MALFORMED	% MAL.	MEAN # MALFORMED LARVAE FOR PHASE I TERRESTRIAL POOL SITE													
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED
EM06	55		5	46	18	13	43	0	19	24	0	3	2	2	0	0
1-EM06	83		9	74	35	25	51	0	22	25	0	7	0	0	0	0
EM07	76		2	70	42	28	36	0	30	42	0	3	8	0	0	0
EM08	101		9	93	54	48	52	0	22	61	0	8	7	0	0	0
EM09	57		10	53	22	10	32	3	15	23	1	6	0	0	0	0
EM10	39		8	38	18	7	27	0	18	32	0	1	1	0	0	0
TOTAL NO.	411		43	374	189	131	241	3	126	207	1	28	18	2	0	0
	Grand Means	29.54	1.39	22.39	16.82	5.77	10.26	0.07	3.83	9.54	0.02	1.49	0.68	1.19	0.00	0.00
	Var (S2)	492.8	2.1	498.1	469.8	77.7	77.7	0.0	18.3	62.1	0.0	2.7	1.5	9.9	0.0	0.0
	SEM	8.4	0.6	8.4	8.2	3.3	3.3	0.1	1.6	3.0	0.0	0.6	0.5	1.2	0.0	0.0
	CV (%)	75.2	105.0	99.7	128.9	152.7	85.9	264.6	111.9	82.6	264.6	111.2	179.8	264.6	na	na

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 22 (46-VP-5)

STAGE 21 4/17/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY		
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED			
EM06 A	25	6	24.00	2	5	2		2			3							MEAN of %	18.26	
B	25	5	20.00		5	1		5		1	4							Var (S2)	22.8	
C	25	4	16.00		2			4		1	4							SEM	2.4	
D	23	3	13.04		2			3		1	3							CV (%)	26.1	
Avg % Malforme				18.26	2.00	14.17	3.00	0.00	14.26	0.00	3.09	14.26	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 A	25	3	12.00		3			2		1	3							MEAN of %	14.38	
B	25	2	8.00		2			2			2							Var (S2)	31.1	
C	24	5	20.83		5		1	5			4		1					SEM	2.8	
D	24	4	16.67		4		2	4			3							CV (%)	38.8	
Avg % Malforme				14.38	0.00	14.38	0.00	3.13	13.38	0.00	1.00	12.29	0.00	1.04	0.00	0.00	0.00	0.00		
EM08 A	25	3	12.00		3			3			2		2					MEAN of %	11.00	
B	25	2	8.00		2			1			1							Var (S2)	14.7	
C	25	4	16.00	1	3			4			4							SEM	1.9	
D	25	2	8.00		2	1		2			2		1					CV (%)	34.8	
Avg % Malforme				11.00	1.00	10.00	1.00	0.00	10.00	0.00	0.00	9.00	0.00	3.00	0.00	0.00	0.00	0.00		
EM09 A	25	3	12.00		3			2			1							MEAN of %	19.25	
B	25	5	20.00		4			3		2	2		1					Var (S2)	28.9	
C	24	6	25.00	2	5	1		5			6		3					SEM	2.7	
D	25	5	20.00	3	5	2		4		1	5							CV (%)	27.9	
Avg % Malforme				19.25	5.08	17.21	3.04	0.00	14.21	0.00	3.00	14.25	0.00	4.13	0.00	0.00	0.00	0.00		
EM10 A	24	6	25.00	2	6	2		6			5							MEAN of %	17.25	
B	25	3	12.00		3	1		2		1	3							Var (S2)	30.3	
C	25	4	16.00	1	4	2		1			2							SEM	2.8	
D	25	4	16.00		4	3		3		2	4		1					CV (%)	31.9	
Avg % Malforme				17.25	3.08	17.25	8.08	0.00	12.25	0.00	3.00	14.21	0.00	1.00	0.00	0.00	0.00	0.00		
1-EM10 A	25	4	16.00	2	4	1		3		1	4							MEAN of %	18.00	
B	25	5	20.00		4	1		4		2	5		1					Var (S2)	5.3	
C	25	5	20.00		5	2		5		1	4							SEM	1.2	
D	25	4	16.00		4	1		2		1	3							CV (%)	12.8	
Avg % Malforme				18.00	2.00	17.00	5.00	0.00	14.00	0.00	5.00	16.00	0.00	1.00	0.00	0.00	0.00	0.00		
Total No.:	594	97		13	89	20	3	77	0	15	79	0	10	0	0	0	0			
Avg of Means				16.36	2.19	15.00	3.35	0.52	13.02	0.00	2.51	13.34	0.00	1.69	0.00	0.00	0.00	0.00		
Var (S2)				9.6	3.1	8.0	8.4	1.6	2.8	0.0	3.1	5.9	0.0	2.4	0.0	0.0	0.0	0.0		
SEM				1.3	0.7	1.2	1.2	0.5	0.7	0.0	0.7	1.0	0.0	0.6	0.0	0.0	0.0	0.0		
CV (%)				19.0	80.1	18.9	86.5	244.9	12.7	na	70.2	18.2	na	90.9	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 22 (46-VP-5)

STAGE 32-35, 5/22/2000, DAY 46

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	21	10	47.62		10	2		8			7		3					MEAN of %	41.82
B	25	7	28.00		7	3		7			5		2					Var (S2)	375.0
C	24	6	25.00		6	2	2	6			6		1					SEM	9.7
D	3	2	66.67		2			2		1	2				1			CV (%)	46.3
		Avg % Malforme	41.82	0.00	41.82	7.46	2.08	39.44	0.00	8.33	36.25	0.00	6.61	0.00	8.33	0.00	0.00		
EM07 A	22	5	22.73		5	1		5			5							MEAN of %	32.80
B	24	10	41.67	3	10			9		3	9		1	1				Var (S2)	62.0
C	20	7	35.00		7	1		7		1	7		2	2				SEM	3.9
D	22	7	31.82		7	2		5		2	7		1					CV (%)	24.0
		Avg % Malforme	32.80	3.13	32.80	4.66	0.00	29.49	0.00	6.65	31.76	0.00	4.68	3.54	0.00	0.00	0.00		
EM08 A	25	11	44.00		11	5		9		3	10			1				MEAN of %	32.00
B	25	5	20.00		5	2		5			5							Var (S2)	106.7
C	25	7	28.00		7	1		7			7							SEM	5.2
D	25	9	36.00		9	2		9		2	9							CV (%)	32.3
		Avg % Malforme	32.00	0.00	32.00	10.00	0.00	30.00	0.00	5.00	31.00	0.00	0.00	1.00	0.00	0.00	0.00		
EM09 A	24	8	33.33	2	8			7			8							MEAN of %	22.03
B	25	5	20.00		5	1		5		4	5							Var (S2)	259.9
C	23	8	34.78	3	8	4		8		2	7							SEM	8.1
D	3	0	0.00															CV (%)	73.2
		Avg % Malforme	22.03	5.34	22.03	5.35	0.00	20.99	0.00	6.17	20.94	0.00	0.00	0.00	0.00	0.00	0.00		
EM10 C	24	9	37.50		9	3	2	8			9		2					MEAN of %	52.08
D	6	4	66.67	2	4	1		3			4		4					Var (S2)	425.3
																		SEM	14.6
																		CV (%)	39.6
		Avg % Malforme	52.08	16.67	52.08	14.58	4.17	41.67	0.00	0.00	52.08	0.00	37.50	0.00	0.00	0.00	0.00		
1-EM10 A	23	8	34.78	2	7	2	2	8		2	7							MEAN of %	39.57
B	20	11	55.00		10	5	3	11			11							Var (S2)	162.9
C	24	6	25.00		6	5	2	6			6							SEM	6.4
D	23	10	43.48		10	4	1	10		3	10							CV (%)	32.3
		Avg % Malforme	39.57	2.17	37.23	17.98	9.09	39.57	0.00	5.43	38.48	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	456	155		12	153	46	12	145	0	23	146	0	16	4	1	0	0		
		Avg of Means	36.72	4.55	36.33	10.01	2.56	33.52	0.00	5.26	35.09	0.00	8.13	0.76	1.39	0.00	0.00		
		Var (S2)	104.7	39.3	103.0	28.3	13.0	64.7	0.0	8.0	105.9	0.0	215.0	2.0	11.6	0.0	0.0		
		SEM	4.2	2.6	4.1	2.2	1.5	3.3	0.0	1.2	4.2	0.0	6.0	0.6	1.4	0.0	0.0		
		CV (%)	27.9	137.7	27.9	53.1	141.2	24.0	na	53.7	29.3	na	180.3	187.8	244.9	na	na		

HOUSATONIC RIVER PROJECT
 VERNAL POOL DEVELOPMENTAL STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
 SITE 22 (46-VP-5)

STAGE 35-38 6/2/2000, DAY 57

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 A	18	10	55.56		10	6		4		3	7							MEAN of %	43.00
B	25	9	36.00	1	9	4		9		2	9							Var (S2)	103.4
C	23	7	30.43		7			5		1	7							SEM	5.1
D	2	1	50.00		1	1		1		1	1							CV (%)	23.6
Avg % Malforme				43.06	1.00	43.00	24.83	0.00	32.49	0.00	19.75	38.83	0.00	0.00	0.00	0.00	0.00		
EM07 A	22	7	31.82		7	3		6		2	6							MEAN of %	28.66
B	22	6	27.27	1	6	4		5			6							Var (S2)	25.1
C	18	4	22.22		4	3		3			4							SEM	2.5
D	18	6	33.33	2	6	3		6		1	6	1						CV (%)	17.5
Avg % Malforme				28.66	3.91	28.66	16.29	0.00	25.00	0.00	3.66	27.53	1.39	0.00	0.00	0.00	0.00		
EM08 A	24	7	29.17		7	5		6		4	7							MEAN of %	34.07
B	23	9	39.13		9	4		7		3	9							Var (S2)	83.2
C	25	6	24.00	1	6	3		3			6							SEM	4.6
D	25	11	44.00	2	10	7		11		2	10		1					CV (%)	26.8
Avg % Malforme				34.07	3.00	33.07	19.56	0.00	27.86	0.00	9.43	33.07	0.00	1.00	0.00	0.00	0.00		
EM09 A	24	10	41.67		10	8		7		3	8							MEAN of %	27.02
B	25	6	24.00	1	6	3		6		3	5							Var (S2)	195.0
C	22	2	9.09		2	2					2							SEM	7.0
D	3	1	33.33												1			CV (%)	51.7
Avg % Malforme				27.02	1.00	18.69	13.61	0.00	13.29	0.00	6.13	15.61	0.00	0.00	0.00	8.33	0.00		
EM10 C	24	11	45.83	2	11	8	1	3			10		3					MEAN of %	31.25
D	6	1	16.67		1	1												Var (S2)	425.3
Avg % Malforme				31.25	4.17	31.25	25.00	2.08	6.25	0.00	0.00	20.83	0.00	6.25	0.00	0.00	0.00		
1-EM10 A	22	3	13.64	1	3	2		3		3	3							MEAN of %	31.34
B	18	4	22.22		4	3		4		2	3		1					Var (S2)	258.3
C	24	10	41.67		10	5	3	9		3	9							SEM	8.0
D	23	11	47.83		11	9	4	9	1	10	10		1					CV (%)	51.3
Avg % Malforme				31.34	1.14	31.34	21.43	7.47	28.12	1.09	20.18	27.82	0.00	2.48	0.00	0.00	0.00		
Total No.:	436	142		11	140	84	8	107	1	43	128	1	6	0	1	0	0		
Avg of Means				32.56	2.37	31.00	20.12	1.59	22.17	0.18	9.86	27.28	0.23	1.62	0.00	1.39	0.00		
Var (S2)				32.1	2.3	61.1	21.0	9.0	102.9	0.2	70.8	69.0	0.3	6.1	0.0	11.6	0.0		
SEM				2.3	0.6	3.2	1.9	1.2	4.1	0.2	3.4	3.4	0.2	1.0	0.0	1.4	0.0		
CV (%)				17.4	63.4	25.2	22.8	188.3	45.8	244.9	85.4	30.5	244.9	152.2	na	244.9	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 22 (46-VP-5)

STAGE 38-41 7/20/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM06 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM07 B	3	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM08 A	2	2	100.00		2			2			2						2	MEAN of %	100.00
B	1	1	100.00														1	Var (S2)	0.0
																		SEM	0.0
																		CV (%)	0.0
		Avg % Malforme	100.00	0.00	50.00	0.00	0.00	50.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	100.00		
EM09 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM10																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
1-EM10 A	2	2	100.00		2	2		2			2							MEAN of %	41.67
B	1	0	0.00															Var (S2)	2500.0
C	2	0	0.00															SEM	25.0
D	3	2	66.67		2	2		1			2							CV (%)	120.0
		Avg % Malforme	41.67	0.00	41.67	41.67	0.00	33.33	0.00	0.00	41.67	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	16	7		0	6	4	0	5	0	0	6	0	0	0	0	0	3		
		Avg of Means	28.33	0.00	18.33	8.33	0.00	16.67	0.00	0.00	18.33	0.00	0.00	0.00	0.00	0.00	20.00		
		Var (S2)	1930.6	0.0	638.9	347.2	0.0	555.6	0.0	0.0	638.9	0.0	0.0	0.0	0.0	0.0	2000.0		
		SEM	19.6	0.0	11.3	8.3	0.0	10.5	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0	20.0		
		CV (%)	155.1	na	137.9	223.6	na	141.4	na	na	137.9	na	na	na	na	na	223.6		

[illegible]

SAMPLE ID	NUMBER MALFORMED	% MAL.	MEAN % MALFORMED LARVAE FOR PHASE I VERNAL POOL SITE													
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED
EM06	70	412	3	66	21	2	56	0	11	58	0	6	0	1	0	0
EM07	66	303	6	66	17	3	59	0	10	62	1	5	3	0	0	0
EM08	80	558	4	76	30	0	69	0	14	74	0	4	1	0	0	4
EM09	59	273	11	56	21	0	47	0	15	49	0	4	0	1	0	0
EM10	42	236	7	42	21	3	26	0	3	37	0	10	0	0	0	0
1-EM10	85	522	5	82	44	15	77	1	28	79	0	3	0	0	0	0
TOTAL NO.	402		36	388	154	23	334	1	81	359	1	32	4	2	0	4
Grand Means		32.79	1.82	20.13	8.36	0.93	17.08	0.04	3.53	18.81	0.05	2.29	0.15	0.56	0.00	14.00
Var (S2)		150.4	3.6	203.8	59.0	1.2	151.2	0.0	17.3	180.2	0.0	11.4	0.1	0.6	0.0	480.0
SEM		5.5	0.9	6.4	3.4	0.5	5.5	0.0	1.9	6.0	0.0	1.5	0.2	0.3	0.0	9.8
CV (%)		37.4	104.5	70.9	91.8	119.5	72.0	223.6	117.7	71.4	223.6	147.2	223.6	136.9	na	156.5

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 27 (18-VP-2)

STAGE 21-22 4/21/2000, DAY 10

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY		
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED			
EM01 A	25	3	12.00		3			2			2							MEAN of %	13.21	
	B	25	5	20.00	5			4			4							Var (S2)	47.1	
	C	24	4	16.67	4	1		4			4							SEM	3.4	
	D	24	1	4.17	1													CV (%)	52.0	
Avg % Malforme				13.21	0.00	13.21	1.04	0.00	10.17	0.00	0.00	10.17	0.00	0.00	0.00	0.00	0.00			
EM02 A	25	2	8.00		2	1		1			1							MEAN of %	21.42	
	B	17	4	23.53	4	2		2		2	3							Var (S2)	85.8	
	C	24	6	25.00	5	3		3		3	4			2				SEM	4.6	
	D	24	7	29.17	5	1		6		1	5							CV (%)	43.2	
Avg % Malforme				21.42	0.00	18.30	8.11	0.00	13.32	0.00	3.98	14.79	0.00	2.08	0.00	0.00	0.00			
EM03 A	25	2	8.00		2	1		2			2			2				MEAN of %	16.00	
	B	25	4	16.00	4	3		3		2	5			4				Var (S2)	32.0	
	C	25	5	20.00	1	5	2	4			5			2				SEM	2.8	
	D	25	5	20.00	2	5	3	1	5		2	5		1				CV (%)	35.4	
Avg % Malforme				16.00	3.00	16.00	9.00	1.00	14.00	0.00	4.00	17.00	0.00	9.00	0.00	0.00	0.00			
EM04 A	25	4	16.00	1	3	1		2		1	2			4				MEAN of %	16.00	
	B	25	4	16.00	4	2		4		1	4							Var (S2)	42.7	
	C	25	6	24.00	6	3		5		2	6							SEM	3.3	
	D	25	2	8.00	2			2			2							CV (%)	40.8	
Avg % Malforme				16.00	1.00	15.00	6.00	0.00	13.00	0.00	4.00	14.00	0.00	4.00	0.00	0.00	0.00			
EM05 A	25	3	12.00		3			2			1							MEAN of %	16.17	
	B	25	4	16.00	4	1		3		1	3							Var (S2)	10.8	
	C	24	4	16.67	1	4		4		1	2							SEM	1.6	
	D	25	5	20.00		5	2		3		2	3						CV (%)	20.3	
Avg % Malforme				16.17	1.04	16.17	3.00	0.00	12.17	0.00	4.04	9.08	0.00	0.00	0.00	0.00	0.00			
Total No.:	487	80		5	76	26	1	61	0	15	63	0	15	0	0	0	0			
Avg of Means				16.56	1.01	15.73	5.43	0.20	12.53	0.00	3.20	13.01	0.00	3.02	0.00	0.00	0.00	0.00		
Var (S2)				8.9	1.5	3.4	11.4	0.2	2.2	0.0	3.2	10.9	0.0	14.0	0.0	0.0	0.0	0.0		
SEM				1.3	0.5	0.8	1.5	0.2	0.7	0.0	0.8	1.5	0.0	1.7	0.0	0.0	0.0	0.0		
CV (%)				18.0	121.5	11.8	62.0	223.6	11.8	na	55.9	25.4	na	123.9	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 27 (18-VP-2)

STAGE 22-25 5/26/2000, DAY 45

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	23	5	21.74	5	3			3		1	2							MEAN of %	19.80
B	24	6	25.00	6	4	1		4		2	3							Var (S2)	16.9
C	24	4	16.67	1	4	2		3		4	4							SEM	2.2
D	19	3	15.79		3	1		2			3							CV (%)	22.0
Avg % Malforme				19.80	12.73	15.54	4.44	0.00	13.18	0.00	7.34	13.41	0.00	0.00	0.00	0.00	0.00		
EM02 A	22	6	27.27		6	3		4			5							MEAN of %	26.67
B	20	6	30.00	2	6	3		5		3	4							Var (S2)	13.5
C	22	5	22.73		5	4		3		1	4							SEM	2.1
D																		CV (%)	13.8
Avg % Malforme				26.67	3.33	26.67	15.61	0.00	18.94	0.00	6.52	20.30	0.00	0.00	0.00	0.00	0.00		
EM03 A	18	4	22.22		4	2		4		2	3							MEAN of %	24.24
B	23	5	21.74		5	5		4		3	5							Var (S2)	8.3
C	25	7	28.00	2	7	6		5		5	6							SEM	1.4
D	12	3	25.00		3	1		2			3							CV (%)	11.9
Avg % Malforme				24.24	2.00	24.24	16.30	0.00	19.07	0.00	11.04	21.85	0.00	0.00	0.00	0.00	0.00		
EM04 A	25	10	40.00		10	8		7		2	8							MEAN of %	28.83
B	18	5	27.78		5	4		5			5							Var (S2)	59.1
C	25	6	24.00	2	6	3		5		1	6							SEM	3.8
D	17	4	23.53		4	2		4		3	3		2					CV (%)	26.7
Avg % Malforme				28.83	2.00	28.83	19.50	0.00	24.83	0.00	7.41	25.36	0.00	2.94	0.00	0.00	0.00		
EM05 A	16	4	25.00	2	4	2	2	4			4	1	1					MEAN of %	30.36
B	20	5	25.00		5	3	4	4			5							Var (S2)	72.3
C	7	2	28.57		2	2		1										SEM	4.3
D	14	6	42.86	4	6	2	2	5	1	2	5							CV (%)	28.0
Avg % Malforme				30.36	10.27	30.36	17.59	11.70	23.75	1.79	3.57	21.43	1.56	1.56	0.00	0.00	0.00		
Total No.:	374	96		24	92	54	8	74	1	29	78	1	3	0	0	0	0		
Avg of Means				25.98	6.07	25.13	14.69	2.34	19.95	0.36	7.17	20.47	0.31	0.90	0.00	0.00	0.00		
Var (S2)				17.2	25.6	34.0	35.0	27.4	21.4	0.6	7.1	19.1	0.5	1.8	0.0	0.0	0.0		
SEM				1.9	2.3	2.6	2.6	2.3	2.1	0.4	1.2	2.0	0.3	0.6	0.0	0.0	0.0		
CV (%)				16.0	83.5	23.2	40.3	223.6	23.2	223.6	37.2	21.4	223.6	147.2	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 27 (18-VP-2)

STAGE 25-30 6/23/2000, DAY 73

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														MEAN of %	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	22	9	40.91	5	8	4	2	7		2	8							39.95	
B	17	5	29.41		5	4	2	5		1	5							42.9	
C	19	8	42.11		8	6	2	7		2	7							3.3	
D	19	9	47.37	2	9	2	4	8		3	8							16.4	
		Avg % Malforme	39.95	8.31	38.81	20.95	13.11	35.04	0.00	10.32	36.18	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	19	11	57.89		10	7	1	7		2	8							47.00	
B	7	2	28.57		2			1		1	2							257.6	
D	11	6	54.55		6	3		4		1	5							9.3	
		Avg % Malforme	47.00	0.00	45.25	21.37	1.75	29.16	0.00	11.30	38.71	0.00	0.00	0.00	0.00	0.00	0.00	34.1	
EM03 A	12	4	33.33		4	4		4		1	4							29.95	
B	23	5	21.74		5	1		5			4							51.1	
C	23	8	34.78	1	8	6	2	7		2	7							4.1	
		Avg % Malforme	29.95	1.45	29.95	21.26	2.90	28.50	0.00	5.68	27.05	0.00	0.00	0.00	0.00	0.00	0.00	23.9	
EM04 A	9	5	55.56		5	3		3			4							55.13	
B	9	6	66.67		6	4		4		1	3							87.7	
C	22	12	54.55		11	6	3	7		2	10							4.7	
D	16	7	43.75	3	7	4	5	1			7							17.0	
		Avg % Malforme	55.13	4.69	53.99	32.51	11.22	28.96	0.00	5.05	41.75	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	10	4	40.00		4	2	3	2			3							34.48	
B	13	8	61.54	2	8	6	3	8		2	7		1					651.7	
C	2	0	0.00															12.8	
D	11	4	36.36		4	3	1	4		2	3							74.0	
		Avg % Malforme	34.48	3.85	34.48	23.36	15.54	29.48	0.00	8.39	27.78	0.00	1.92	0.00	0.00	0.00	0.00		
Total No.:	264	113		13	110	65	28	84	0	22	95	0	1	0	0	0	0		
		Avg of Means	41.30	3.66	40.50	23.89	8.91	30.23	0.00	8.15	34.29	0.00	0.38	0.00	0.00	0.00	0.00		
		Var (S2)	100.2	10.3	88.8	24.1	38.6	7.4	0.0	7.6	43.4	0.0	0.7	0.0	0.0	0.0	0.0		
		SEM	4.5	1.4	4.2	2.2	2.8	1.2	0.0	1.2	2.9	0.0	0.4	0.0	0.0	0.0	0.0		
		CV (%)	24.2	87.5	23.3	20.6	69.7	9.0	na	33.9	19.2	na	223.6	na	na	na	na		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														MEAN of % Var (S2) SEM CV (%)	26.50 93.8 5.6 36.6
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	20	5	25.00		5	3		2			5		1						
C	17	3	17.65		3	1		2			3		2						
D	19	7	36.84		7	3		5		1	6								
		Avg % Malforme	26.50	0.00	26.50	12.22	0.00	16.03	0.00	1.75	24.74	0.00	5.59	0.00	0.00	0.00	0.00		
EM02 A	7	2	28.57		2										1				
		Avg % Malforme	28.57	0.00	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	0.00		
EM03 A	12	4	33.33		4	2		3		2	1		2						
B	23	8	34.78		8	5		4		1	7								
C	23	6	26.09	2	6	3		5		3	4		2						
		Avg % Malforme	31.40	2.90	31.40	17.15	0.00	21.38	0.00	11.35	18.72	0.00	8.45	0.00	0.00	0.00	0.00		
EM04 A	9	3	33.33		3	2		2		1	3								
B	9	5	55.56		4	3		5		2	5								
C	18	7	38.89	3	7	6		6		2	2		4						
D	17	6	35.29		6	3		5			5								
		Avg % Malforme	40.77	4.17	37.99	26.63	0.00	35.13	0.00	11.11	32.35	0.00	5.56	0.00	0.00	0.00	0.00		
EM05 A	10	4	40.00	1	4	1		2			4								
B	9	3	33.33		3	2					2								
D	2	0	0.00																
		Avg % Malforme	24.44	3.33	24.44	10.74	0.00	6.67	0.00	0.00	20.74	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	195	63		95	89	57	73	51	0	47	69	0	235	0	1	0	0		
		Avg of Means	30.34	2.08	29.78	13.35	0.00	15.84	0.00	4.84	19.31	0.00	3.92	0.00	2.86	0.00	0.00		
		Var (S2)	40.6	3.8	27.7	94.3	0.0	184.5	0.0	34.5	143.7	0.0	14.2	0.0	40.8	0.0	0.0		
		SEM	2.9	0.9	2.4	4.3	0.0	6.1	0.0	2.6	5.4	0.0	1.7	0.0	2.9	0.0	0.0		
		CV (%)	21.0	93.9	17.7	72.7	na	85.7	na	121.3	62.1	na	96.1	na	223.6	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 28 (23b-VP-1)

STAGE 21 4/24/2000, DAY 16

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	19	0	0.00															MEAN of %	2.38
C	21	1	4.76			1		1										Var (S2)	11.3
																		SEM	2.4
																		CV (%)	141.4
		Avg % Malforme	2.38	0.00	0.00	2.38	0.00	2.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM01 B	5	0	0.00															MEAN of %	0.00
C	21	0	0.00															Var (S2)	0.0
D	1	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 B	24	1	4.17			1		1	1									MEAN of %	1.39
C	19	0	0.00															Var (S2)	5.8
D	1	0	0.00															SEM	1.4
																		CV (%)	173.2
		Avg % Malforme	1.39	0.00	0.00	1.39	0.00	1.39	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	25	1	4.00			1		1		1								MEAN of %	3.00
B	23	0	0.00								1							Var (S2)	14.7
C	25	2	8.00			2					1							SEM	1.9
D	24	0	0.00															CV (%)	127.7
		Avg % Malforme	3.00	0.00	0.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	24	2	8.33			2				2	2							MEAN of %	5.21
B	24	1	4.17			1											1	Var (S2)	15.9
C	24	2	8.33			2				1	1						1	SEM	2.0
D	22	0	0.00															CV (%)	76.6
		Avg % Malforme	5.21	0.00	0.00	5.21	0.00	0.00	0.00	3.13	3.13	0.00	0.00	0.00	0.00	0.00	2.08		
EM05 A	25	1	4.00		1	1	1											MEAN of %	2.67
B	25	0	0.00															Var (S2)	10.7
C	15	1	6.67		1	1												SEM	1.8
D	9	0	0.00															CV (%)	122.5
		Avg % Malforme	2.67	0.00	2.67	2.67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	376	12		0	2	12	1	3	1	5	3	0	0	0	0	0	2		
		Avg of Means	2.44	0.00	0.44	2.44	0.17	0.79	0.23	0.85	0.52	0.00	0.00	0.00	0.00	0.00	0.35		
		Var (S2)	3.0	0.0	1.2	3.0	0.2	1.0	0.3	1.9	1.6	0.0	0.0	0.0	0.0	0.0	0.7		
		SEM	0.7	0.0	0.4	0.7	0.2	0.4	0.2	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.3		
		CV (%)	71.2	na	244.9	71.2	244.9	123.3	244.9	160.4	244.9	na	na	na	na	na	244.9		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 28 (23b-VP-1)

STAGE 32 5/30/2000, DAY 52

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	5	1	20.00			1	1											MEAN of %	10.00
C	3	0	0.00															Var (S2)	200.0
																		SEM	10.0
																		CV (%)	141.4
		Avg % Malforme	10.00	0.00	0.00	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM01 B	2	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	17	0	0.00															MEAN of %	8.52
B	5	1	20.00			1	1											Var (S2)	72.4
C	20	1	5.00			1	1	1			1							SEM	4.3
D	11	1	9.09			1	1	1		1								CV (%)	99.8
		Avg % Malforme	8.52	0.00	0.00	8.52	8.52	3.52	0.00	2.27	1.25	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	7	0	0.00															MEAN of %	4.42
B	14	1	7.14			1	1				1							Var (S2)	27.9
C	16	0	0.00															SEM	2.6
D	19	2	10.53			2	1				2							CV (%)	118.6
		Avg % Malforme	4.42	0.00	0.00	4.42	3.16	0.00	0.00	0.00	4.42	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	4	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	124	7		0	0	7	6	2	0	1	4	0	0	0	0	0	0		
		Avg of Means	3.82	0.00	0.00	3.82	3.60	0.59	0.00	0.38	0.94	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	20.9	0.0	0.0	20.9	20.9	2.1	0.0	0.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	1.9	0.0	0.0	1.9	1.9	0.6	0.0	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	119.5	na	na	119.5	126.7	244.9	na	244.9	187.7	na	na	na	na	na	na		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
1-EM01																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
EM02																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
EM03 A	10	0	0.00															MEAN of %	2.56
C	13	1	7.69		1	1											1	Var (S2)	19.7
D	10	0	0.00															SEM	2.6
Avg % Malforme			2.56	0.00	2.56	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	CV (%)	173.2
EM04 A	1	0	0.00															MEAN of %	4.79
B	8	1	12.50		1	1		1						1				Var (S2)	36.3
C	4	0	0.00															SEM	3.0
D	15	1	6.67		1	1								1				CV (%)	125.7
Avg % Malforme			4.79	0.00	4.79	4.79	0.00	3.13	0.00	0.00	4.79	0.00	0.00	0.00	0.00	0.00	0.00		
EM05																		MEAN of % Var (S2) SEM CV (%)	na na na na
Avg % Malformed																			
Total No.:	61	3		0	3	3	0	1	0	0	2	0	0	0	0	0	1		
Avg of Means			3.68	0.00	3.68	3.68	0.00	1.56	0.00	0.00	2.40	0.00	0.00	0.00	0.00	0.00	1.28		
Var (S2)			2.5	0.0	2.5	2.5	0.0	4.9	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	3.3		
SEM			1.1	0.0	1.1	1.1	0.0	1.6	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	1.3		
CV (%)			42.8	na	42.8	42.8	na	141.4	na	na	141.4	na	na	na	na	na	141.4		

STAGE 42 7/27/2000, DAY 110

[illegible]

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 29 (23b-VP-2)

STAGE 23-25 4/20/2000, DAY 10

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	23	1	4.35		1	1		1										MEAN of %	5.16
B	23	0	0.00															Var (S2)	23.8
C	22	1	4.55	1	1	1					1	1						SEM	2.4
D	17	2	11.76		2	2					2							CV (%)	94.4
		Avg % Malforme	5.16	1.14	5.16	5.16	0.00	1.09	0.00	0.00	4.08	1.14	0.00	0.00	0.00	0.00	0.00		
1-EM01 A	15	0	0.00															MEAN of %	3.50
B	16	0	0.00															Var (S2)	22.3
C	20	2	10.00		1	1		2			2							SEM	2.4
D	25	1	4.00		1	1		1										CV (%)	135.0
		Avg % Malforme	3.50	0.00	2.25	2.25	0.00	3.50	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	24	0	0.00															MEAN of %	3.00
B	25	1	4.00		1	1					1	1						Var (S2)	14.7
C	25	2	8.00		2	1	1	1			1	1						SEM	1.9
D	25	0	0.00															CV (%)	127.7
		Avg % Malforme	3.00	0.00	3.00	2.00	1.00	1.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	23	1	4.35		1	1												MEAN of %	2.17
B	25	0	0.00															Var (S2)	9.5
																		SEM	2.2
																		CV (%)	141.4
		Avg % Malforme	2.17	0.00	2.17	2.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	0	0.00															MEAN of %	3.50
B	20	2	10.00		2			1		2	2	1					1	Var (S2)	22.3
C	25	0	0.00															SEM	2.4
D	25	1	4.00		1			1		1	1							CV (%)	135.0
		Avg % Malforme	3.50	0.00	3.50	0.00	0.00	2.25	0.00	3.50	3.50	1.25	0.00	0.00	0.00	0.00	1.25		
Total No.:	404	14		1	13	9	1	7	0	3	10	4	0	0	0	0	1		
		Avg of Means	2.89	0.19	2.68	1.93	0.17	1.31	0.00	0.58	2.01	0.73	0.00	0.00	0.00	0.00	0.21		
		Var (S2)	3.0	0.2	2.9	3.6	0.2	1.9	0.0	2.0	3.0	0.7	0.0	0.0	0.0	0.0	0.3		
		SEM	0.7	0.2	0.7	0.8	0.2	0.6	0.0	0.6	0.7	0.3	0.0	0.0	0.0	0.0	0.2		
		CV (%)	59.5	244.9	63.7	98.5	244.9	104.2	na	244.9	85.5	116.8	na	na	na	na	244.9		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 29 (23b-VP-2)

STAGE 28-29 5/22/2000, DAY 42

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM01 A	6	0	0.00															MEAN of %	1.59
C	2	0	0.00															Var (S2)	7.6
D	21	1	4.76		1	1												SEM	1.6
																		CV (%)	173.2
		Avg % Malforme	1.59	0.00	1.59	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	2	8.70		2	2		1		2	2							MEAN of %	4.83
B	24	0	0.00															Var (S2)	13.1
C	21	1	4.76		1	1		1		1	1						1	SEM	1.8
D	17	1	5.88		1	1		1		1	1							CV (%)	74.9
		Avg % Malforme	4.83	0.00	4.83	4.83	0.00	3.75	0.00	4.83	4.83	0.00	0.00	0.00	0.00	0.00	1.19		
EM03 A	19	0	0.00															MEAN of %	13.33
B	15	4	26.67		4	4												Var (S2)	355.6
																		SEM	13.3
																		CV (%)	141.4
		Avg % Malforme	13.33	0.00	13.33	13.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	18	4	22.22		4	4												MEAN of %	11.81
B	4	1	25.00		1	1												Var (S2)	187.1
C	6	0	0.00															SEM	6.8
D	18	0	0.00															CV (%)	115.9
		Avg % Malforme	11.81	0.00	11.81	11.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	196	14		0	14	14	0	3	0	4	4	0	0	0	0	0	1		
		Avg of Means	5.26	0.00	5.26	5.26	0.00	0.62	0.00	0.81	0.81	0.00	0.00	0.00	0.00	0.00	0.20		
		Var (S2)	35.4	0.0	35.4	35.4	0.0	2.3	0.0	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.2		
		SEM	2.4	0.0	2.4	2.4	0.0	0.6	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.2		
		CV (%)	113.1	na	113.1	113.1	na	244.9	na	244.9	244.9	na	na	na	na	na	244.9		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of % Var (\$2) SEM CV (%)	na na na na
		Avg % Malformed																	
1-EM01																		MEAN of % Var (\$2) SEM CV (%)	na na na na
		Avg % Malformed																	
EM02 B C D	20 17 15	1 2 0	5.00 11.76 0.00		1 2	1 2		2		2								MEAN of % Var (\$2) SEM CV (%)	5.59 34.9 3.4 105.7
		Avg % Malforme	5.59	0.00	5.59	5.59	0.00	3.92	0.00	3.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A B	13 9	0 0	0.00 0.00															MEAN of % Var (\$2) SEM CV (%)	0.00 0.0 0.0 na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04																		MEAN of % Var (\$2) SEM CV (%)	na na na na
		Avg % Malformed																	
EM05 A C D	12 1 9	4 1 3	33.33 100.00 33.33		4 1 3	4 1 3		4		4	2							MEAN of % Var (\$2) SEM CV (%)	55.56 1481.5 22.2 69.3
		Avg % Malforme	55.56	0.00	55.56	55.56	0.00	18.52	0.00	22.22	16.67	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	96	11		0	11	11	0	8	0	9	5	0	0	0	0	0	0		
		Avg of Means	20.38	0.00	20.38	20.38	0.00	7.48	0.00	8.71	5.56	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (\$2)	935.7	0.0	935.7	935.7	0.0	95.2	0.0	140.7	92.6	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	17.7	0.0	17.7	17.7	0.0	5.6	0.0	6.8	5.6	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	150.1	na	150.1	150.1	na	130.5	na	136.1	173.2	na	na	na	na	na	na		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of % Var (\$Z) SEM CV (%)	na na na na
		Avg % Malformed																	
1-EM01																		MEAN of % Var (\$Z) SEM CV (%)	na na na na
		Avg % Malformed																	
EM02 B C	11 7	1 0	9.09 0.00		1	1												MEAN of % Var (\$Z) SEM CV (%)	4.55 41.3 4.5 141.4
		Avg % Malforme	4.55	0.00	4.55	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	8	2	25.00		2	2		1			1							MEAN of % Var (\$Z) SEM CV (%)	25.00 na na na
		Avg % Malforme	25.00	0.00	25.00	25.00	0.00	12.50	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00		
EM04																		MEAN of % Var (\$Z) SEM CV (%)	na na na na
		Avg % Malformed																	
EM05 A	6	1	16.67	1	1	1					1							MEAN of % Var (\$Z) SEM CV (%)	16.67 na na na
		Avg % Malforme	16.67	16.67	16.67	16.67	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	32	4		1	4	4	0	1	0	0	2	0	0	0	0	0	0		
		Avg of Means	15.40	5.56	15.40	15.40	0.00	4.17	0.00	0.00	9.72	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (\$Z)	105.8	92.6	105.8	105.8	0.0	52.1	0.0	0.0	75.2	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	5.9	5.6	5.9	5.9	0.0	4.2	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	66.8	173.2	66.8	66.8	na	173.2	na	na	89.2	na	na	na	na	na	na		

[illegible]

SAMPLE ID	NUMBER MALFORMED	% MAL.	DEFECTS												
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE
EM01	4		1	4	4	0	1	0	0	3	1	0	0	0	0
1-EM01	4		0	3	3	0	3	0	0	2	0	0	0	0	0
EM02	11		0	11	10	1	6	0	6	6	2	0	0	0	1
EM03	7		0	7	7	0	1	0	0	1	0	0	0	0	0
EM04	0		0	0	0	0	0	0	0	0	0	0	0	0	0
EM05	17		1	17	14	0	8	0	10	9	1	0	0	0	1
TOTAL NO.	43		2	42	38	1	19	0	16	21	4	0	0	0	2
	Grand Means	8.79	1.15	8.75	8.60	0.03	2.72	0.00	2.02	3.62	0.15	0.00	0.00	0.00	0.08
	Var (S2)	75.7	6.1	76.3	78.7	0.0	9.6	0.0	14.1	16.1	0.1	0.0	0.0	0.0	0.0
	SEM	3.9	1.1	3.9	4.0	0.0	1.4	0.0	1.7	1.8	0.1	0.0	0.0	0.0	0.0
	CV (%)	99.0	214.5	99.9	103.2	223.6	114.3	na	186.0	111.0	223.6	na	na	na	137.0

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 30 (38-VP-1)

STAGE 21-22 4/27/2000, DAY 21

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	5	20.00	1	5	5		4		2	4							MEAN of %	30.00
B	25	6	24.00		5	3	1	6		1	8							Var (S2)	90.7
C	25	10	40.00		10	8	3	7		3	9							SEM	4.8
D	25	9	36.00		9	9	2	8			8							CV (%)	31.7
Avg % Malforme				30.00	1.00	29.00	25.00	6.00	25.00	0.00	6.00	27.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	24	5	20.83		5	4	2				5		1					MEAN of %	31.90
B	23	8	34.78		8	7	2	7		1	3							Var (S2)	65.5
C	25	10	40.00		10	8	3	2			5							SEM	4.0
D	25	8	32.00		8	8		5			5							CV (%)	25.4
Avg % Malforme				31.90	0.00	31.90	27.78	7.26	14.61	0.00	1.09	18.47	0.00	1.04	0.00	0.00	0.00		
EM03 A	24	11	45.83		11	11	4	10			10		2				3	MEAN of %	35.79
B	25	9	36.00		9	8	2	7			9		1	1				Var (S2)	55.9
C	25	7	28.00		7	6	5	5			5							SEM	3.7
D	24	8	33.33		8	5	6	4			7							CV (%)	20.9
Avg % Malforme				35.79	0.00	35.79	30.67	17.42	26.58	0.00	0.00	31.71	0.00	3.08	1.00	0.00	0.00	3.13	
EM04 A	22	5	22.73		5	5		3			3	2						MEAN of %	32.06
B	20	8	40.00		8	8		5			6							Var (S2)	65.4
C	25	7	28.00	2	7	7		6			3		1					SEM	4.0
D	24	9	37.50		9	9	6	3			8							CV (%)	25.2
Avg % Malforme				32.06	2.00	32.06	32.06	6.25	18.78	0.00	0.00	22.24	2.27	1.00	0.00	0.00	0.00		
EM05 A	25	5	20.00		5	5	4	5			5							MEAN of %	27.00
B	25	7	28.00		7	6	6	2			5							Var (S2)	48.7
C	25	9	36.00		8	8	2	3	1		7		4	1				SEM	3.4
D	25	6	24.00		6	5	4	3	2		6		3					CV (%)	25.3
Avg % Malforme				27.00	0.00	26.00	22.00	16.00	13.00	3.00	0.00	23.00	0.00	7.00	1.00	0.00	0.00		
1-EM05 A	24	8	33.33	3	8	8	2	7		5		1					1	MEAN of %	29.10
B	24	10	41.67		10	9		3		1	8		2					Var (S2)	113.0
C	25	6	24.00		6	5	3	4	1		5		1					SEM	5.3
D	23	4	17.39		4	3	2	2		1	4							CV (%)	36.5
Avg % Malforme				29.10	3.13	29.10	25.97	7.26	16.59	1.00	7.34	17.68	1.04	3.08	0.00	0.00	0.00	1.04	
Total No.:	582	180		6	178	158	59	111	4	14	136	3	15	2	0	0	4		
Avg of Means				30.98	1.02	30.64	27.24	10.03	19.09	0.67	2.40	23.35	0.55	2.53	0.33	0.00	0.00	0.69	
Var (S2)				9.1	1.7	11.3	13.9	27.2	30.9	1.5	11.3	28.1	0.9	6.3	0.3	0.0	0.0	1.6	
SEM				1.2	0.5	1.4	1.5	2.1	2.3	0.5	1.4	2.2	0.4	1.0	0.2	0.0	0.0	0.5	
CV (%)				9.7	127.8	11.0	13.7	52.0	29.1	181.7	139.6	22.7	170.2	99.1	154.9	na	na	181.7	

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 30 (38-VP-1)

STAGE 23-25 5/12/2000, DAY 36

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	4	16.00					4		4	4							MEAN of %	18.60
B	25	5	20.00		4	2		5		5	5							Var (S2)	7.4
C	23	5	21.74		3	2		5		5	5							SEM	1.4
D	24	4	16.67		4	3		4		4	4							CV (%)	14.7
		Avg % Malforme	18.60	0.00	11.43	7.30	0.00	18.60	0.00	18.60	18.60	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	24	8	33.33		5	2		4		4	5							MEAN of %	26.77
B	23	5	21.74		5	4		5		5	5							Var (S2)	25.9
C	25	6	24.00		6	5		4		4	3							SEM	2.5
D	25	7	28.00		7	3		5		5	6							CV (%)	19.0
		Avg % Malforme	26.77	0.00	23.64	14.43	0.00	18.60	0.00	18.60	19.64	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	24	8	33.33		8	5		8		3	7							MEAN of %	27.96
B	25	4	16.00		4	2		4		1	4							Var (S2)	67.4
C	24	7	29.17		7	4		7		2	7							SEM	4.1
D	24	8	33.33		8	5		8		3	8							CV (%)	29.4
		Avg % Malforme	27.96	0.00	27.96	16.58	0.00	27.96	0.00	9.33	26.92	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	16	9	56.25		9	4		9		3	8							MEAN of %	43.60
B	19	10	52.63		10	7		10		3	9							Var (S2)	174.1
C	25	7	28.00		7	5		7		3	6							SEM	6.6
D	24	9	37.50		9	6		9		4	9							CV (%)	30.3
		Avg % Malforme	43.60	0.00	43.60	26.71	0.00	43.60	0.00	15.80	39.72	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	10	40.00		10	7		10		3	10							MEAN of %	39.00
B	25	12	48.00		12	9		8		5	12							Var (S2)	46.7
C	25	8	32.00		8	5		8		4	5							SEM	3.4
D	25	9	36.00		9	5		7		2	9							CV (%)	17.5
		Avg % Malforme	39.00	0.00	39.00	26.00	0.00	33.00	0.00	14.00	36.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	20	10	50.00		10	7		6		5	5							MEAN of %	38.27
B	23	11	47.83		11	5		10		6	8							Var (S2)	153.4
C	24	7	29.17		5	3		7		5	7							SEM	6.2
D	23	6	26.09		4	2		6		3	6							CV (%)	32.4
		Avg % Malforme	38.27	0.00	34.01	19.48	0.00	32.18	0.00	21.24	28.76	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	565	179		0	165	102	0	160	0	91	157	0	0	0	0	0	0		
		Avg of Means	32.37	0.00	29.94	18.42	0.00	28.99	0.00	16.26	28.27	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	89.0	0.0	134.3	54.1	0.0	91.3	0.0	17.8	72.2	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	3.9	0.0	4.7	3.0	0.0	3.9	0.0	1.7	3.5	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	29.2	na	38.7	39.9	na	33.0	na	26.0	30.0	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 30 (38-VP-1)

STAGE 23-25 6/2/2000, DAY 57

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														SEVERE	STUNTED	MEAN of %	Var (S2)	SEM	CV (%)
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB								
EM01 A	25	14	56.00		14	14	2	10			11												
B	25	16	64.00		16	13	5	9		4	12												
C	23	14	60.87	3	14	12	6	10		1	11	1							2				
D	24	18	75.00		18	17	6	12			9												
		Avg % Malforme	63.97	3.26	63.97	57.75	19.77	42.37	0.00	5.09	44.33	1.09	0.00	0.00	0.00	0.00	0.00	0.00	2.17				
EM02 A	24	9	37.50		9	9	5				8												
B	23	9	39.13		9	9		7			7												
C	21	13	61.90		13	13		9			8												
D	24	11	45.83		11	11		9			10								2				
		Avg % Malforme	46.09	0.00	46.09	46.09	5.21	27.70	0.00	0.00	35.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08				
EM03 A	24	8	33.33	2	8	6	5	6		2	4	5											
B	25	12	48.00		12	12	1	9		1	9		2										
C	24	10	41.67	1	10	10	4	8		1	10		1	1									
D	22	11	50.00		11	10	5	9			10												
		Avg % Malforme	43.25	3.13	43.25	40.03	16.06	33.81	0.00	4.13	34.95	5.21	3.04	1.04	0.00	0.00	0.00	0.00	0.00				
EM04 A	16	7	43.75	1	7	7	5	3			6												
B	18	9	50.00		9	8	6	6			6		2										
C	25	9	36.00		9	7	7				6												
D	24	7	29.17		7	7	4	3			7												
		Avg % Malforme	39.73	1.56	39.73	36.34	27.31	16.15	0.00	0.00	31.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	0.00				
EM05 A	25	12	48.00		12	11	1	7		1	9												
B	25	7	28.00		7	6		2			7												
C	24	15	62.50		15	15		6			13												
D	23	9	39.13		9	9	5	3			9		1										
		Avg % Malforme	44.41	0.00	44.41	42.41	6.43	18.51	0.00	1.00	39.32	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00				
1-EM05 A	20	8	40.00		8	7	4	8			6												
B	22	9	40.91	1	9	9	5	5		1	6												
C	24	10	41.67		10	9		7		5	9												
D	23	11	47.83	2	9	8		9	1	3	8	1	1						1				
		Avg % Malforme	42.60	3.31	40.43	37.05	10.68	32.76	1.09	9.61	32.39	1.09	1.09	0.00	0.00	0.00	0.00	0.00	1.09				
Total No.:	553	258		10	256	239	76	157	1	19	201	7	7	1	0	0	0	0	5				
		Avg of Means	46.67	1.88	46.31	43.28	14.24	28.55	0.18	3.30	36.31	1.23	1.33	0.17	0.00	0.00	0.00	0.89					
		Var (S2)	76.2	2.5	80.5	63.1	72.0	98.3	0.2	14.1	23.8	4.1	1.7	0.2	0.0	0.0	0.0	1.1					
		SEM	3.6	0.6	3.7	3.2	3.5	4.0	0.2	1.5	2.0	0.8	0.5	0.2	0.0	0.0	0.0	0.4					
		CV (%)	18.7	84.8	19.4	18.4	59.6	34.7	244.9	113.9	13.4	164.2	98.9	244.9	na	na	na	117.6					

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 30 (38-VP-1)

STAGE 32 7/20/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 C	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
EM03																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
EM04																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
EM05																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
1-EM05																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
Total No.:	1	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		
		SEM	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

COMBINED PHASE I LARVAL DATA
MEAN % MALFORMED LARVAE FOR PHASE I VERNAL POOL SITE

SAMPLE ID	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED
EM01	110		4	102	88	25	84	0	29	88	1	0	0	0	0	2
EM02	99		0	96	83	12	57	0	19	70	0	1	0	0	0	2
EM03	103		3	103	84	32	85	0	13	90	5	6	2	0	0	3
EM04	98		3	96	80	28	64	0	13	77	2	3	0	0	0	0
EM05	109		0	108	89	22	64	3	15	97	0	8	1	0	0	0
1-EM05	100		6	94	75	16	74	2	35	72	2	4	0	0	0	2
TOTAL NO.	617		16	599	499	135	428	5	124	494	10	22	3	0	0	9
	Grand Means	27.50	0.72	26.72	22.24	6.07	19.16	0.21	5.49	21.98	0.45	0.97	0.13	0.00	0.00	0.40
	Var (S2)	386.6	0.8	374.5	325.6	52.1	184.0	0.1	53.5	243.3	0.3	1.5	0.0	0.0	0.0	0.2
	SEM	9.8	0.5	9.7	9.0	3.6	6.8	0.2	3.7	7.8	0.3	0.6	0.1	0.0	0.0	0.2
	CV (%)	71.5	125.1	72.4	81.2	118.9	70.8	148.6	133.2	71.0	131.1	126.1	126.4	na	na	117.2

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 32 (46-VP-1)

STAGE 22-23 4/25/2000, DAY 15

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	0	0.00															MEAN of %	3.08
B	25	1	4.00		1	1		1			1							Var (S2)	15.8
C	24	2	8.33		2	2												SEM	2.0
D	25	0	0.00															CV (%)	128.9
		Avg % Malforme	3.08	0.00	3.08	3.08	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM01 A	25	1	4.00		1	1				1								MEAN of %	4.08
B	25	0	0.00															Var (S2)	11.6
C	24	2	8.33		2	2		2			2							SEM	1.7
D	25	1	4.00		1	1		1			1							CV (%)	83.3
		Avg % Malforme	4.08	0.00	4.08	4.08	0.00	3.08	0.00	1.00	3.08	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	25	0	0.00		1	1		1			1							MEAN of %	1.00
B	25	1	4.00															Var (S2)	4.0
C	25	0	0.00															SEM	1.0
D	25	0	0.00															CV (%)	200.0
		Avg % Malforme	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	25	0	0.00															MEAN of %	5.13
B	25	2	8.00		2	2	1	2			2		1					Var (S2)	38.4
C	24	3	12.50		3	3	1	1			2		3					SEM	3.1
D	25	0	0.00															CV (%)	120.9
		Avg % Malforme	5.13	0.00	5.13	5.13	2.04	3.04	0.00	0.00	4.08	0.00	4.13	0.00	0.00	0.00	0.00		
EM04 A	25	0	0.00															MEAN of %	4.00
B	25	2	8.00		2	2		2			1		1					Var (S2)	21.3
C	25	2	8.00	1	2		2	2	1		2		1					SEM	2.3
D	20	0	0.00															CV (%)	115.5
		Avg % Malforme	4.00	1.00	4.00	2.00	2.00	4.00	1.60	0.00	3.00	0.00	2.00	0.00	0.00	0.00	0.00		
EM05 A	25	0	0.00															MEAN of %	6.00
B	25	2	8.00		2	1	2	2			2							Var (S2)	58.7
C	25	0	0.00															SEM	3.8
D	25	4	16.00		4	2	4	2	1		4		3					CV (%)	127.7
		Avg % Malforme	6.00	0.00	6.00	3.00	6.00	4.00	1.00	0.00	6.00	0.00	3.00	0.00	0.00	0.00	0.00		
Total No.:	592	23		1	23	18	10	16	2	1	18	0	9	0	0	0	0		
		Avg of Means	3.88	0.17	3.88	3.05	1.67	2.69	0.33	0.17	3.03	0.00	1.52	0.00	0.00	0.00	0.00		
		Var (S2)	3.0	0.2	3.0	2.1	5.5	1.9	0.3	0.2	3.6	0.0	3.2	0.0	0.0	0.0	0.0		
		SEM	0.7	0.2	0.7	0.6	1.0	0.6	0.2	0.2	0.8	0.0	0.7	0.0	0.0	0.0	0.0		
		CV (%)	44.7	244.9	44.7	47.9	139.8	51.1	154.9	244.9	63.0	na	118.1	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 32 (46-VP-1)

STAGE 25-26 5/22/2000, DAY 42

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	23	2	8.70		2	2		2		1	1		2					MEAN of %	11.52
B	25	2	8.00	1	2	2		2			2							Var (S2)	18.4
C	23	4	17.39		4	4		3			2							SEM	2.1
D	25	3	12.00		3	3		3			3							CV (%)	37.2
		Avg % Malforme	11.52	1.00	11.52	11.52	0.00	10.43	0.00	1.09	8.26	0.00	2.17	0.00	0.00	0.00	0.00		
1-EM01 A	25	0	0.00															MEAN of %	5.34
B	24	2	8.33		2	2		2		1	1							Var (S2)	41.8
C	23	3	13.04		3	2		2		2	3		1					SEM	3.2
D	20	0	0.00															CV (%)	120.9
		Avg % Malforme	5.34	0.00	5.34	4.26	0.00	4.26	0.00	3.22	4.30	0.00	1.09	0.00	0.00	0.00	0.00		
EM02 A	22	1	4.55		1	1		1			1			1				MEAN of %	8.40
B	23	3	13.04	2	3	2		1			2	1					1	Var (S2)	12.2
C	25	2	8.00		2	2		2			2							SEM	1.7
D	25	2	8.00		2	2		1			2							CV (%)	41.7
		Avg % Malforme	8.40	2.17	8.40	7.31	0.00	5.22	0.00	0.00	7.31	1.09	0.00	1.14	0.00	0.00	1.09		
EM03 A	25	0	0.00															MEAN of %	12.50
B	24	3	12.50	1	3	3		2			3							Var (S2)	81.0
C	24	5	20.83	1	5	5					5	1						SEM	4.5
D	24	4	16.67		4	4		3			4							CV (%)	72.0
		Avg % Malforme	12.50	2.08	12.50	12.50	0.00	5.21	0.00	0.00	12.50	1.04	0.00	0.00	0.00	0.00	0.00		
EM04 A	25	2	8.00	2	2	2	1	1										MEAN of %	9.00
B	25	5	20.00		5	4	3			1	4							Var (S2)	68.0
C	25	2	8.00		2	2	1	2			1							SEM	4.1
D	20	0	0.00															CV (%)	91.6
		Avg % Malforme	9.00	2.00	9.00	8.00	5.00	3.00	0.00	1.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	2	8.00		2	2	1	2			2							MEAN of %	16.00
B	25	3	12.00		3	2	2	2			3			1				Var (S2)	53.3
C	25	6	24.00		6	4	2	5		1	4							SEM	3.7
D	25	5	20.00		5	2	3	5			2							CV (%)	45.6
		Avg % Malforme	16.00	0.00	16.00	10.00	8.00	14.00	0.00	1.00	11.00	0.00	0.00	1.00	0.00	0.00	0.00		
Total No.:	575	61		7	61	52	13	41	0	6	47	2	3	2	0	0	1		
		Avg of Means	10.46	1.21	10.46	8.93	2.17	7.02	0.00	1.05	8.06	0.35	0.54	0.36	0.00	0.00	0.18		
		Var (S2)	13.7	1.1	13.7	9.2	12.2	18.1	0.0	1.4	10.5	0.3	0.8	0.3	0.0	0.0	0.2		
		SEM	1.5	0.4	1.5	1.2	1.4	1.7	0.0	0.5	1.3	0.2	0.4	0.2	0.0	0.0	0.2		
		CV (%)	35.4	85.0	35.4	33.9	161.0	60.7	na	111.8	40.2	155.0	167.3	155.4	na	na	244.9		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 32 (46-VP-1)

STAGE 32-35 6/29/2000, DAY 80

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
Avg % Malformed																			
1-EM01 A	10	0	0.00															MEAN of %	0.00
B	3	0	0.00															Var (S2)	0.0
D	4	0	0.00															SEM	0.0
																		CV (%)	na
Avg % Malforme				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	11	2	18.18		2	2		2			2							MEAN of %	19.13
B	12	3	25.00		3	3		3			2							Var (S2)	19.6
C	21	4	19.05		4	4		4			3		1					SEM	2.2
D	7	1	14.29		1	1										1		CV (%)	23.1
Avg % Malforme				19.13	0.00	19.13	19.13	0.00	15.56	0.00	0.00	12.28	0.00	1.19	0.00	0.00	3.57	0.00	
EM03 A	13	5	38.46		5	4		4			4							MEAN of %	23.43
B	1	0	0.00															Var (S2)	422.6
C	22	7	31.82		7	7					7							SEM	11.9
																		CV (%)	87.8
Avg % Malforme				23.43	0.00	23.43	20.86	0.00	10.26	0.00	0.00	20.86	0.00	0.00	0.00	0.00	0.00	0.00	
EM04 A	8	1	12.50		1	1												MEAN of %	9.38
B	5	0	0.00															Var (S2)	143.2
C	8	2	25.00		2	2		1			2							SEM	8.0
D	2	0	0.00															CV (%)	127.7
Avg % Malforme				9.38	0.00	9.38	9.38	0.00	3.13	0.00	0.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	
EM05 A	14	3	21.43		3	2		2		1	2							MEAN of %	7.14
C	4	0	0.00															Var (S2)	153.1
D	5	0	0.00															SEM	7.1
																		CV (%)	173.2
Avg % Malforme				7.14	0.00	7.14	4.76	0.00	4.76	0.00	2.38	4.76	0.00	0.00	0.00	0.00	0.00	0.00	
Total No.:	150	28		0	28	26	0	16	0	1	22	0	1	0	0	1	0		
Avg of Means				11.81	0.00	11.81	10.83	0.00	6.74	0.00	0.48	8.83	0.00	0.24	0.00	0.00	0.71	0.00	
Var (S2)				88.9	0.0	88.9	81.4	0.0	38.1	0.0	1.1	64.5	0.0	0.3	0.0	0.0	2.6	0.0	
SEM				4.2	0.0	4.2	4.0	0.0	2.8	0.0	0.5	3.6	0.0	0.2	0.0	0.0	0.7	0.0	
CV (%)				79.8	na	79.8	83.4	na	91.6	na	223.6	90.9	na	223.6	na	na	223.6	na	

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of % Var (S2) SEM CV (%)	na na na na
		Avg % Malformed																	
1-EM01 D	1	0	0.00															MEAN of % Var (S2) SEM CV (%)	0.00 na na na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	1	0	0.00															MEAN of %	9.52
B	6	1	16.67		1	1												Var (S2)	124.7
C	14	3	21.43		3	3					2		1					SEM	5.6
D	2	0	0.00															CV (%)	117.3
		Avg % Malforme	9.52	0.00	9.52	9.52	0.00	0.00	0.00	0.00	3.57	0.00	1.79	0.00	0.00	0.00	0.00		
EM03 A	6	3	50.00		3	3	2	2			3							MEAN of %	48.33
C	15	7	46.67		7	6	5				7							Var (S2)	5.6
		Avg % Malforme	48.33	0.00	48.33	45.00	33.33	16.67	0.00	0.00	48.33	0.00	0.00	0.00	0.00	0.00	0.00	SEM	1.7
																		CV (%)	4.9
EM04 A	3	1	33.33		1	1					1							MEAN of %	16.67
C	1	0	0.00															Var (S2)	555.6
		Avg % Malforme	16.67	0.00	16.67	16.67	0.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	SEM	16.7
																		CV (%)	141.4
EM05 A	6	0	0.00															MEAN of %	0.00
C	2	0	0.00															Var (S2)	0.0
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SEM	0.0
																		CV (%)	na
Total No.:	57	15		0	15	14	7	2	0	0	13	0	1	0	0	0	0		
		Avg of Means	14.90	0.00	14.90	14.24	6.67	3.33	0.00	0.00	13.71	0.00	0.36	0.00	0.00	0.00	0.00		
		Var (S2)	398.5	0.0	398.5	345.0	222.2	55.6	0.0	0.0	421.6	0.0	0.6	0.0	0.0	0.0	0.0		
		SEM	8.9	0.0	8.9	8.3	6.7	3.3	0.0	0.0	9.2	0.0	0.4	0.0	0.0	0.0	0.0		
		CV (%)	133.9	na	133.9	130.4	223.6	223.6	na	na	149.7	na	223.6	na	na	na	na		

[illegible]FEL - Lower Housatonic River Project

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Crossover Study)

STAGE 23-24 4/24/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	25	0	0.00															SEM	0.0
D	25	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	25	0	0.00															MEAN of %	2.04
B	25	1	4.00		1	1												Var (S2)	5.6
C	24	1	4.17		1	1												SEM	1.2
D	25	0	0.00															CV (%)	115.5
		Avg % Malforme	2.04	0.00	2.04	2.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	23	1	4.35		1	1		1										MEAN of %	1.09
B	24	0	0.00															Var (S2)	4.7
C	25	0	0.00															SEM	1.1
D	25	0	0.00															CV (%)	200.0
		Avg % Malforme	1.09	0.00	1.09	1.09	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	24	0	0.00															MEAN of %	1.00
B	25	0	0.00															Var (S2)	4.0
C	25	1	4.00	1	1	1												SEM	1.0
D	25	0	0.00															CV (%)	200.0
		Avg % Malforme	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	0	0.00															MEAN of %	1.00
B	25	0	0.00															Var (S2)	4.0
C	25	1	4.00		1	1												SEM	1.0
D	25	0	0.00															CV (%)	200.0
		Avg % Malforme	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	24	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	24	0	0.00															SEM	0.0
D	24	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	592	5		1	5	5	0	1	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.85	0.17	0.85	0.85	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.6	0.2	0.6	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.3	0.2	0.3	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	90.1	244.9	90.1	90.1	na	244.9	na	na	na	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Crossover Study)

STAGE 28-30 5/30/2000, DAY 47

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIME	SEVERE	STUNTED		
EM01 A	23	1	4.35		1	1			1	1								MEAN of %	2.13
B	24	1	4.17	1	1	1		1				1						Var (S2)	6.0
C	19	0	0.00															SEM	1.2
D	25	0	0.00															CV (%)	115.5
		Avg % Malforme	2.13	1.04	2.13	2.13	0.00	1.04	1.09	1.09	0.00	1.04	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	0	0.00															MEAN of %	0.00
B	21	0	0.00															Var (S2)	0.0
C	22	0	0.00															SEM	0.0
D	23	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	18	0	0.00															MEAN of %	2.34
B	17	0	0.00															Var (S2)	7.4
C	20	1	5.00	1	1	1						1						SEM	1.4
D	23	1	4.35	1	1	1						1						CV (%)	116.0
		Avg % Malforme	2.34	2.34	2.34	2.34	0.00	0.00	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.00	0.00		
EM04 A	22	0	0.00															MEAN of %	4.09
B	25	2	8.00	2	2	2				1	1	2						Var (S2)	10.7
C	23	1	4.35									1						SEM	1.6
D	25	1	4.00									1						CV (%)	80.0
		Avg % Malforme	4.09	2.00	2.00	2.00	0.00	0.00	0.00	1.00	1.00	4.09	0.00	0.00	0.00	0.00	0.00		
EM05 A	23	1	4.35										1					MEAN of %	1.45
C	22	0	0.00															Var (S2)	6.3
D	24	0	0.00															SEM	1.4
		Avg % Malforme	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	0.00	0.00	0.00	CV (%)	173.2
1-EM05 A	23	1	4.35	1										1				MEAN of %	1.09
B	21	0	0.00															Var (S2)	4.7
C	18	0	0.00															SEM	1.1
D	19	0	0.00															CV (%)	200.0
		Avg % Malforme	1.09	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00	0.00	0.00	0.00		
Total No.:	503	10		6	6	6	0	1	1	2	1	9	0	0	0	0	0		
		Avg of Means	1.85	1.08	1.08	1.08	0.00	0.17	0.18	0.35	0.17	1.67	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	1.9	1.0	1.4	1.4	0.0	0.2	0.2	0.3	0.2	2.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.6	0.4	0.5	0.5	0.0	0.2	0.2	0.2	0.2	0.6	0.0	0.0	0.0	0.0	0.0		
		CV (%)	74.5	96.6	110.0	110.0	na	244.9	244.9	155.1	244.9	84.2	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Crossover Study)

STAGE 30-34 6/26/2000, DAY 74

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	21	1	4.76		1							1						MEAN of %	3.19
B	23	0	0.00															Var (S2)	11.5
C	19	0	0.00															SEM	1.7
D	25	2	8.00	1								2						CV (%)	106.2
		Avg % Malforme	3.19	1.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00	3.19	0.00	0.00	0.00	0.00	0.00		
EM02 A	21	1	4.76	1														MEAN of %	2.28
B	21	0	0.00															Var (S2)	6.9
C	19	0	0.00															SEM	1.3
D	23	1	4.35	1														CV (%)	115.7
		Avg % Malforme	2.28	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	18	0	0.00															MEAN of %	1.14
B	16	0	0.00															Var (S2)	5.2
C	19	0	0.00															SEM	1.1
D	22	1	4.55		1							1						CV (%)	200.0
		Avg % Malforme	1.14	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00		
EM04 A	19	0	0.00															MEAN of %	3.26
B	23	2	8.70	1								2						Var (S2)	17.3
C	20	0	0.00															SEM	2.1
D	23	1	4.35									1						CV (%)	127.7
		Avg % Malforme	3.26	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.26	0.00	0.00	0.00	0.00	0.00		
EM05 A	21	0	0.00															MEAN of %	2.78
C	18	0	0.00															Var (S2)	23.1
D	24	2	8.33	1								2						SEM	2.8
		Avg % Malforme	2.78	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	CV (%)	173.2
1-EM05 A	21	1	4.76										1					MEAN of %	1.19
B	19	0	0.00															Var (S2)	5.7
C	15	0	0.00															SEM	1.2
D	16	0	0.00															CV (%)	200.0
		Avg % Malforme	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00		
Total No.:	466	12		5	2	0	0	0	0	0	0	10	0	0	0	0	0		
		Avg of Means	2.31	0.96	0.39	0.00	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.9	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0		
		SEM	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		
		CV (%)	41.3	90.7	155.0	na	na	na	na	na	na	69.6	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Crossover Study)

STAGE 36-38 7/27/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	17	0	0.00															MEAN of %	1.67
B	17	0	0.00															Var (S2)	11.1
C	15	1	6.67		1	1												SEM	1.7
D	1	0	0.00															CV (%)	200.0
		Avg % Malforme	1.67	0.00	1.67	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	15	0	0.00															MEAN of %	1.67
B	15	1	6.67		1	1		1										Var (S2)	11.1
C	14	0	0.00															SEM	1.7
D	18	0	0.00															CV (%)	200.0
		Avg % Malforme	1.67	0.00	1.67	1.67	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	13	0	0.00															MEAN of %	0.00
B	11	0	0.00															Var (S2)	0.0
C	11	0	0.00															SEM	0.0
D	15	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	7	0	0.00															MEAN of %	0.00
B	12	0	0.00															Var (S2)	0.0
C	8	0	0.00															SEM	0.0
D	10	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	20	2	10.00	1	2	1						2						MEAN of %	4.92
C	4	0	0.00									1						Var (S2)	25.0
D	21	1	4.76	1														SEM	2.9
		Avg % Malforme	4.92	3.25	3.33	1.67	0.00	0.00	0.00	0.00	0.00	4.92	0.00	0.00	0.00	0.00	0.00	CV (%)	101.7
1-EM05 A	12	1	8.33		1	1		1				1						MEAN of %	4.01
B	13	1	7.69	1								1						Var (S2)	21.5
C	8	0	0.00															SEM	2.3
D	8	0	0.00															CV (%)	115.7
		Avg % Malforme	4.01	1.92	2.08	2.08	0.00	2.08	0.00	0.00	0.00	4.01	0.00	0.00	0.00	0.00	0.00		
Total No.:	285	7		3	5	4	0	2	0	0	0	5	0	0	0	0	0		
		Avg of Means	2.04	0.86	1.46	1.18	0.00	0.63	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	4.2	2.0	1.6	0.9	0.0	1.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0		
		SEM	0.8	0.6	0.5	0.4	0.0	0.4	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0		
		CV (%)	99.7	162.4	88.1	78.7	na	156.3	na	na	na	156.1	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Crossover Study)

STAGE 41-42 8/28/2000, DAY 137

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	9	0	0.00															MEAN of %	0.00
B	9	0	0.00															Var (S2)	0.0
C	3	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 C	2	0	0.00															MEAN of %	0.00
D	12	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	3	0	0.00															MEAN of %	0.00
C	3	0	0.00															Var (S2)	0.0
D	4	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	5	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 B	6	0	0.00															MEAN of %	0.00
D	1	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	58	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

[illegible]

SAMPLE ID	NUMBER	%	DEFECTS													
	MALFORMED	MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED
EM01	6		2	4	3	0	1	1	1	0	4	0	0	0	0	0
EM02	5		2	3	3	0	1	0	0	0	0	0	0	0	0	0
EM03	4		2	4	3	0	1	0	0	0	3	0	0	0	0	0
EM04	8		4	3	3	0	0	0	1	1	7	0	0	0	0	0
EM05	7		3	3	2	0	0	0	0	0	6	0	0	0	0	0
1-EM05	4		2	1	1	0	1	0	0	0	4	0	0	0	0	0
TOTAL NO.	34		15	18	15	0	4	1	2	1	24	0	0	0	0	0
Grand Means		1.18	0.51	0.63	0.52	0.00	0.16	0.03	0.06	0.03	0.85	0.00	0.00	0.00	0.00	0.00
Var (S2)		1.1	0.3	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
SEM		0.4	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0
CV (%)		88.0	99.3	95.0	111.4	na	148.4	244.9	244.9	244.9	110.8	na	na	na	na	na

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Crossover Study)

STAGE 22-24 4/24/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	24	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	25	0	0.00															SEM	0.0
D	25	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	25	0	0.00															MEAN of %	1.00
B	25	0	0.00															Var (S2)	4.0
C	25	1	4.00	1									1					SEM	1.0
D	24	0	0.00															CV (%)	200.0
		Avg % Malforme	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	23	0	0.00															MEAN of %	1.00
B	23	0	0.00															Var (S2)	4.0
C	25	0	0.00															SEM	1.0
D	25	1	4.00	1									1					CV (%)	200.0
		Avg % Malforme	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	24	0	0.00															MEAN of %	1.04
B	24	0	0.00															Var (S2)	4.3
C	24	1	4.17	1														SEM	1.0
D	24	0	0.00															CV (%)	200.0
		Avg % Malforme	1.04	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	22	0	0.00															SEM	0.0
D	24	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	22	0	0.00															MEAN of %	0.00
B	18	0	0.00															Var (S2)	0.0
C	23	0	0.00															SEM	0.0
D	25	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	574	3		3	0	0	0	0	0	0	0	2	0	0	0	0	0		
		Avg of Means	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0		
		SEM	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		
		CV (%)	109.6	109.6	na	na	na	na	na	na	na	154.9	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Crossover Study)

STAGE 30-34 5/30/2000, DAY 47

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 B	16	0	0.00															MEAN of %	0.00
C	21	0	0.00															Var (S2)	0.0
D	8	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	0	0.00															MEAN of %	0.00
B	8	0	0.00															Var (S2)	0.0
C	24	0	0.00															SEM	0.0
D	24	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	22	0	0.00															MEAN of %	0.00
B	22	0	0.00															Var (S2)	0.0
C	23	0	0.00															SEM	0.0
D	18	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	6	0	0.00															MEAN of %	0.00
B	24	0	0.00															Var (S2)	0.0
C	20	0	0.00															SEM	0.0
D	22	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	21	0	0.00															MEAN of %	0.00
B	9	0	0.00															Var (S2)	0.0
C	17	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	22	0	0.00															MEAN of %	0.00
B	4	0	0.00															Var (S2)	0.0
C	21	0	0.00															SEM	0.0
D	18	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	393	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 C D	20 1	1 0	5.00 0.00	1								1						MEAN of % Var (S2) SEM CV (%)	2.50 6.3 1.8 100.0
		Avg % Malforme	2.50	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00		
EM02 A C D	21 23 21	0 0 0	0.00 0.00 0.00															MEAN of % Var (S2) SEM CV (%)	0.00 0.0 0.0 na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A B C D	21 21 22 17	0 0 0 0	0.00 0.00 0.00 0.00															MEAN of % Var (S2) SEM CV (%)	0.00 0.0 0.0 na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 B C D	23 19 15	0 0 1	0.00 0.00 6.67	1								1						MEAN of % Var (S2) SEM CV (%)	2.22 14.8 2.2 173.2
		Avg % Malforme	2.22	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	0.00	0.00	0.00	0.00	0.00		
EM05 A B C	9 3 13	0 0 0	0.00 0.00 0.00															MEAN of % Var (S2) SEM CV (%)	0.00 0.0 0.0 na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A C D	20 15 10	1 0 0	5.00 0.00 0.00													1		MEAN of % Var (S2) SEM CV (%)	1.67 8.3 1.7 173.2
		Avg % Malforme	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00		
Total No.:	294	3		2	0	0	0	0	0	0	0	2	0	0	0	1	0		
		Avg of Means	1.06	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.28	0.00		
		Var (S2)	1.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.5	0.0		
		SEM	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0		
		CV (%)	112.4	155.3	na	na	na	na	na	na	na	155.3	na	na	na	244.9	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Crossover Study)

STAGE 40-42 7/27/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 C	15	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	10	0	0.00															MEAN of %	0.00
C	15	0	0.00															Var (S2)	0.0
D	12	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 D	9	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 B	19	0	0.00															MEAN of %	0.00
C	1	0	0.00															Var (S2)	0.0
D	5	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 C	2	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	6	0	0.00															MEAN of %	0.00
C	8	0	0.00															Var (S2)	0.0
D	4	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	106	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
 VERNAL POOL DEVELOPMENTAL STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
 SITE 42 (WML-2) (Data shared with Crossover Study)

STAGE 42-44 8/28/2000, DAY 137

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
			Avg % Malformed																
EM02 D	6	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
			Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 D	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
			Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
			Avg % Malformed																
EM05																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
			Avg % Malformed																
1-EM05 A	5	0	0.00															MEAN of %	0.00
C	6	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
			Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	18	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
			Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

[illegible]

SAMPLE ID	NUMBER MALFORMED	% MAL.	DEFECTS												
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE
EM01	1		1	0	0	0	0	0	0	0	1	0	0	0	0
EM02	1		1	0	0	0	0	0	0	0	1	0	0	0	0
EM03	1		1	0	0	0	0	0	0	0	1	0	0	0	0
EM04	2		2	0	0	0	0	0	0	0	1	0	0	0	0
EM05	0		0	0	0	0	0	0	0	0	0	0	0	0	0
1-EM05	1		0	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL NO.	6		5	0	0	0	0	0	0	0	4	0	0	0	0
	Grand Means	0.26	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00
	Var (S2)	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	SEM	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	CV (%)	168.9	160.3	na	na	na	na	na	na	na	172.9	na	na	na	na

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 43 (WML-3) (Data shared with Spike Study)

STAGE 22-24 4/24/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	0	0.00															MEAN of %	0.00
B	24	0	0.00															Var (S2)	0.0
C	24	0	0.00															SEM	0.0
D	24	0	0.00															CV (%)	na
Avg % Malformed				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	25	0	0.00															MEAN of %	1.00
B	25	1	4.00	1								1						Var (S2)	4.0
C	25	0	0.00															SEM	1.0
D	25	0	0.00															CV (%)	200.0
Avg % Malformed				1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	24	0	0.00															MEAN of %	2.00
B	25	2	8.00	2	1		1					1						Var (S2)	16.0
C	25	0	0.00															SEM	2.0
D	24	0	0.00															CV (%)	200.0
Avg % Malformed				2.00	2.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	25	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	24	0	0.00															SEM	0.0
D	25	0	0.00															CV (%)	na
Avg % Malformed				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	25	0	0.00															MEAN of %	0.00
B	25	0	0.00															Var (S2)	0.0
C	25	0	0.00															SEM	0.0
D	25	0	0.00															CV (%)	na
Avg % Malformed				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	25	0	0.00															MEAN of %	0.00
1-B	24	0	0.00															Var (S2)	0.0
1-C	24	0	0.00															SEM	0.0
1-D	25	0	0.00															CV (%)	na
Avg % Malformed				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	592	3		3	1	0	1	0	0	0	0	2	0	0	0	0	0		
Avg of Means				0.50	0.50	0.17	0.00	0.17	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00		
Var (S2)				0.7	0.7	0.2	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0		
SEM				0.3	0.3	0.2	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0		
CV (%)				167.3	167.3	244.9	na	244.9	na	na	na	154.9	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 43 (WML-3) (Data shared with Spike Study)

STAGE 31-34 5/30/2000, DAY 47

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	25	0	0.00															MEAN of %	0.00
B	23	0	0.00															Var (S2)	0.0
C	4	0	0.00															SEM	0.0
D	3	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	0	0.00															MEAN of %	2.38
B	1	0	0.00															Var (S2)	22.7
C	12	0	0.00															SEM	2.4
D	21	2	9.52	2								2						CV (%)	200.0
		Avg % Malformed	2.38	2.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38	0.00	0.00	0.00	0.00	0.00		
EM03 A	15	0	0.00															MEAN of %	0.00
B	20	0	0.00															Var (S2)	0.0
C	18	0	0.00															SEM	0.0
D	17	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	18	0	0.00															MEAN of %	0.00
B	17	0	0.00															Var (S2)	0.0
C	16	0	0.00															SEM	0.0
D	13	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	10	0	0.00															MEAN of %	0.00
B	15	0	0.00															Var (S2)	0.0
D	7	0	0.00															SEM	0.0
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	CV (%)	na
1-EM05 A	24	0	0.00															MEAN of %	0.00
1-B	12	0	0.00															Var (S2)	0.0
1-C	21	0	0.00															SEM	0.0
1-D	25	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	381	2		2	0	0	0	0	0	0	0	2	0	0	0	0	0		
		Avg of Means	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0		
		SEM	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0		
		CV (%)	244.9	244.9	na	na	na	na	na	na	na	244.9	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
 VERNAL POOL DEVELOPMENTAL STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
 SITE 43 (WML-3) (Data shared with Spike Study)

STAGE 36-40 6/26/2000, DAY 74

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	23	0	0.00															MEAN of %	0.00
B	23	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	7	0	0.00															MEAN of %	0.00
C	1	0	0.00															Var (S2)	0.0
D	18	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	11	0	0.00															MEAN of %	0.00
B	18	0	0.00															Var (S2)	0.0
C	14	0	0.00															SEM	0.0
D	10	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	13	0	0.00															MEAN of %	0.00
B	13	0	0.00															Var (S2)	0.0
C	13	0	0.00															SEM	0.0
D	9	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	5	1	20.00	1									1					MEAN of %	10.00
B	10	0	0.00															Var (S2)	200.0
																		SEM	10.0
																		CV (%)	141.4
		Avg % Malformed	10.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00		
1-EM05 A	22	0	0.00															MEAN of %	0.00
1-B	3	0	0.00															Var (S2)	0.0
1-C	11	0	0.00															SEM	0.0
1-D	18	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	242	1		1	0	0	0	0	0	0	0	1	0	0	0	0	0		
		Avg of Means	1.67	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	16.7	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0		
		SEM	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0		
		CV (%)	244.9	244.9	na	na	na	na	na	na	na	244.9	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 43 (WML-3) (Data shared with Spike Study)

STAGE 40-44 7/27/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	8	0	0.00															MEAN of %	0.00
B	7	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 D	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 B	3	0	0.00															MEAN of %	0.00
C	1	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	1	0	0.00															MEAN of %	0.00
B	2	0	0.00															Var (S2)	0.0
C	3	0	0.00															SEM	0.0
D	2	0	0.00															CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05																		MEAN of %	na
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malformed																	
1-EM05 A	4	0	0.00															MEAN of %	0.00
1-D	2	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malformed	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	34	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

[illegible]

SAMPLE ID	NUMBER MALFORMED	% MAL.	DEFECTS													
			EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED
EM01	0		0	0	0	0	0	0	0	0	0	0	0	0	0	
EM02	3		3	0	0	0	0	0	0	0	3	0	0	0	0	
EM03	2		2	1	0	1	0	0	0	0	1	0	0	0	0	
EM04	0		0	0	0	0	0	0	0	0	0	0	0	0	0	
EM05	1		1	0	0	0	0	0	0	0	1	0	0	0	0	
1-EM05	0		0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL NO.	6		6	1	0	1	0	0	0	0	5	0	0	0	0	
Grand Means		0.51	0.51	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	
Var (S2)		0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	
SEM		0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	
CV (%)		133.4	133.4	223.6	na	223.6	na	na	na	na	143.7	na	na	na	na	

HOUSATONIC RIVER PROJECT
VERNAL POOL DEVELOPMENTAL STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
COMBINED REFERENCE SITES 41, 42, AND 43 (WML-1, 2, AND 3)

MEAN % MALFORMED LARVAE FOR PHASE I VERNAL POOL SITE

STAGE 24, DAY 11

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	0.85	0.17	0.85	0.85	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
43	0.50	0.50	0.17	0.00	0.17	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
MEAN %	0.62	0.39	0.34	0.28	0.06	0.06	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Var (S2)	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEM	0.1	0.1	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
CV (%)	32.7	49.7	133.1	173.2	173.2	173.2	na	na	na	86.6	na	na	na	na	na

STAGE 34, DAY 47

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	1.85	1.08	1.08	1.08	0.00	0.17	0.18	0.35	0.17	1.67	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.40	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00
MEAN %	0.75	0.49	0.36	0.36	0.00	0.06	0.06	0.12	0.06	0.69	0.00	0.00	0.00	0.00	0.00
Var (S2)	0.9	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
SEM	0.6	0.3	0.4	0.4	0.0	0.1	0.1	0.1	0.1	0.5	0.0	0.0	0.0	0.0	0.0
CV (%)	130.0	110.9	173.2	173.2	na	173.2	173.2	173.2	173.2	126.6	na	na	na	na	na

STAGE 40, DAY 74

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	2.31	0.96	0.39	0.00	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00
42	1.06	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.28	0.00
43	1.67	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00	0.00	0.00	0.09	0.00
MEAN %	1.68	1.14	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.0	0.0
Var (S2)	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.0
SEM	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0
CV (%)	37.0	41.0	173.2	na	na	na	na	na	na	40.9	na	na	na	173.2	na

STAGE 44, DAY 105

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	2.04	0.86	1.46	1.18	0.00	0.63	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN %	0.68	0.29	0.49	0.39	0.00	0.21	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00
Var (S2)	1.4	0.2	0.7	0.5	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
SEM	0.7	0.3	0.5	0.4	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
CV (%)	173.2	173.2	173.2	173.2	na	173.2	na	na	na	173.2	na	na	na	na	na

STAGE 44, DAY 137

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

STAGE 44, DAY 147

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

COMBINED REFERENCE SITE TOTAL % MALFORMATION FOR PHASE I VERNAL POOL

SITE	% MALFORMED	% EDEMA	% TAIL	% NOTOC	% FIN	% FACE	% BRAIN	% EYE	% MOUTH	% GUT	% HEMOR	% CARIDAC	% LIMB	% SEVERE	% STUNTED
41	1.18	0.51	0.63	0.52	0.00	0.16	0.03	0.06	0.03	0.85	0.00	0.00	0.00	0.00	0.00
42	0.26	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.05	0.00
43	0.51	0.51	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00
MEAN %	0.65	0.41	0.22	0.17	0.01	0.05	0.01	0.02	0.01	0.50	0.00	0.00	0.00	0.02	0.00
Var (S2)	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
SEM	0.3	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
CV (%)	72.6	41.4	160.3	173.2	173.2	173.2	173.2	173.2	173.2	65.6	na	na	na	173.2	na

HOUSATONIC RIVER PROJECT
VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH SUMMARY FOR FIGURES (Mean Length in cm)

	Site 20 (8-VP-1) 14.5mg/kg Sed PCB	Site 21 (38-VP-2) 62.0mg/kg Sed PCB	Site 22 (46-VP-5) 2.2mg/kg Sed PCB	Site 27 (18-VP-2) 6.05mg/kg Sed PCB	Site 28 (23b-VP-1) 0.19mg/kg Sed PCB	Site 29 (23b-VP-2) 0.11mg/kg Sed PCB	Site 30 (38-VP-1) 28.0mg/kg Sed PCB	Site 32 (46-VP-1) 0.5mg/kg Sed PCB	Site 41 (WML-1) 0.069mg/kg Sed PCB	Site 42 (WML-2) 0.13mg/kg Sed PCB	Site 43 (WML-3) 0.11mg/kg Sed PCB	Site 41,42,43 (WML-1,2,3) ND mg/kg Sed PCB
APRIL												
Study Day:	10	16	11	10	16	10	21	15	11	11	11	11
Growth Stage:	20	21	21	22	21	25	22	23	24	24	24	24
Combined Egg Mass Statistics:												
N	6	6	6	5	6	6	6	6	6	6	6	18
Site Mean (cm)	2.057	2.067	1.693	1.892	1.926	2.081	2.125	2.138	2.065	2.067	2.202	2.111
Var. (S ²)	0.007	0.012	0.007	0.012	0.007	0.208	0.003	0.008	0.024	0.020	0.006	0.006
SEM	0.034	0.045	0.034	0.049	0.034	0.186	0.024	0.036	0.063	0.058	0.032	0.045
MAY												
Study Day:	35	37	46	45	52	42	36	42	47	47	47	47
Growth Stage:	23	23	35	25	32	29	25	26	30	34	34	34
Combined Egg Mass Statistics:												
N	6	6	6	5	6	6	6	6	6	6	6	18
Site Mean (cm)	2.599	2.485	2.692	2.336	3.097	2.835	2.560	2.615	2.787	2.944	3.105	2.945
Var. (S ²)	0.016	0.009	0.044	0.002	0.280	0.608	0.014	0.014	0.009	0.019	0.037	0.025
SEM	0.051	0.040	0.085	0.020	0.216	0.318	0.049	0.048	0.039	0.056	0.078	0.092
JUNE												
Study Day:	80	72	57	73	79	80	57	80	74	74	74	74
Growth Stage:	40	36	38	30	38	40	25	35	34	40	40	40
Combined Egg Mass Statistics:												
N	6	6	6	5	2	3	6	5	6	6	6	18
Site Mean (cm)	3.049	2.915	3.424	3.031	2.989	3.378	2.990	3.303	3.061	3.158	3.849	3.356
Var. (S ²)	0.010	0.189	0.058	0.022	0.001	0.009	0.022	0.025	0.014	0.024	0.102	0.185
SEM	0.041	0.178	0.098	0.066	0.019	0.055	0.061	0.071	0.049	0.063	0.130	0.248
JULY												
Study Day:	101	110	105	104	110	101	105	101	105	105	105	105
Growth Stage:	40	38	41	32	42	39	32	41	38	42	44	44
Combined Egg Mass Statistics:												
N	5	6	5	5	2	3	1	5	6	6	5	17
Site Mean (cm)	3.463	3.327	3.507	3.657	3.578	3.827	5.202	3.566	3.487	3.476	4.029	3.664
Var. (S ²)	0.069	0.072	0.225	0.104	0.064	0.080	na	0.102	0.016	0.241	0.134	0.100
SEM	0.118	0.109	0.212	0.144	0.179	0.164	na	0.143	0.051	0.200	0.164	0.183
AUGUST												
Study Day:	133	142	126	135	118	143		133	137	137	126	137
Growth Stage:	40	41	27	31	42	39		34	42	44	44	44
Combined Egg Mass Statistics:												
N	3	4	1	4	2	1		2	6	3	1	10
Site Mean (cm)	3.430	3.974	2.892	4.020	3.234	3.417		3.750	3.984	3.550	3.692	3.742
Var. (S ²)	0.459	0.840	na	0.039	0.003	na		0.017	0.350	0.223	na	0.049
SEM	0.391	0.458	na	0.098	0.036	na		0.091	0.241	0.273	na	0.128
SEPTEMBER												
Study Day:	154	173		156					147	147		147
Growth Stage:	40	40		36					41	44		44
Combined Egg Mass Statistics:												
N	2	1		2					2	1		3
Site Mean (cm)	4.188	4.009		4.156					3.955	3.427		3.691
Var. (S ²)	0.083	na		0.167					0.425	na		0.139
SEM	0.204	na		0.289					0.461	na		0.264
OCTOBER												
Study Day:		184										
Growth Stage:		40										
Combined Egg Mass Statistics:												
N		1										
Site Mean (cm)		3.092										
Var. (S ²)		na										
SEM		na										

Comments: 1. Study Days from the growth data summarized for graphical presentation match the study days on which the corresponding larvae were staged and observed for malformations.
2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given site on a given study day.

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
10	20	1.957	1.965	2.055	2.114	2.167	2.085
35	23	2.417	2.550	2.557	2.765	2.712	2.592
80	40	2.997	3.123	2.999	3.158	3.117	2.898
101	40	3.821	3.587	3.153	na	3.479	3.272
133	40	na	4.105	2.749	na	3.436	na
154	40	na	na	4.392	na	3.983	na

Standard Error of Mean (SEM)

DAY	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
10	0.022	0.019	0.021	0.046	0.023	0.020
35	0.038	0.034	0.031	0.072	0.035	0.042
80	0.139	0.065	0.092	0.218	0.071	0.061
101	0.294	0.102	0.161	na	0.129	0.099
133	na	na	0.591	na	0.147	na
154	na	na	na	na	0.528	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
	1.930	2.097	2.174	1.881	2.409	1.988
DATE	1.774	1.654	1.881	2.013	2.184	1.933
04/20/00	1.664	2.353	2.464	1.826	1.434	2.115
	1.876	2.107	2.189	1.846	2.008	2.438
STUDY DAY	1.943	1.876	2.314	2.243	2.167	2.133
10	2.035	2.188	2.012	2.085	2.323	2.369
	2.315	1.625	1.726	1.892	2.366	2.000
STAGE	2.018	1.789	1.623	1.713	1.978	2.200
20	1.812	2.154	1.774	2.224	2.171	1.942
	1.900	1.875	2.292	1.838	2.133	2.299
	2.113	2.026	2.360	1.937	2.491	2.306
	1.505	1.947	2.157	2.148	2.365	1.900
	2.048	2.056	2.035	1.584	2.298	2.303
	2.306	1.968	2.037	1.939	1.912	2.155
	1.683	2.125	1.971	2.200	2.056	2.315
	1.993	1.941	1.947	2.016	2.253	2.058
	1.981	1.912	2.131	2.108	2.227	2.357
	1.881	1.778	2.097	2.153	2.360	2.213
	1.726	1.749	2.159	2.117	2.115	2.182
	2.100	2.163	1.661	1.977	2.320	2.078
	1.858	1.947	2.122	1.895	2.190	2.046
	1.345	2.237	2.012	1.806	2.224	1.947
	2.051	1.968	2.125	2.054	2.329	2.566
	2.176	1.813	2.074	2.438	2.530	2.174
	2.441	1.994	1.978	2.319	2.006	2.264
	1.943	1.963	2.194	2.327	2.180	1.968
	1.975	1.645	1.939	2.507	2.609	2.210
	1.770	2.222	2.303	2.678	2.485	2.550
	1.621	2.001	2.136	2.284	2.253	1.842
	1.943	2.066	2.246	1.957	2.280	1.839
	1.692	2.046	2.196	2.531	1.859	2.078
	2.009	2.188	1.957	2.198	2.028	2.122
	1.664	1.937	2.191	2.645	1.993	2.329
	2.060	1.723	1.971	2.481	2.037	2.323
	1.490	1.547	1.706		1.870	2.058
	1.908	1.873	2.127		1.826	2.072
	2.275	1.963	2.307		2.167	2.146
	2.024	2.071	2.096		1.614	1.778
	1.786	1.764	2.018		2.082	2.464
	1.999	1.937	2.097		2.222	2.210
	1.986	1.947	1.817		2.054	2.219
	1.950	2.006	2.167		2.214	2.140
	2.048	1.849	1.919		2.122	1.950
	1.949	2.138	2.225		2.275	2.244
	1.898	2.046	2.252		2.471	2.214
	1.923	1.892	1.688		2.230	1.790
	1.795	1.657	2.151		2.330	2.293
	1.942	1.947	1.783		2.127	2.122
	1.754	1.757	2.332		1.786	1.865
	1.875	2.056	2.074		1.969	2.164

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
2.097	1.966	1.630		2.011	2.171	
2.146	2.050	2.225		1.791	1.826	
1.474	2.002	2.348		2.041	1.543	
2.012	1.827	2.035		2.228	2.029	
2.434	2.047	2.352		2.031	1.970	
2.222	1.865	1.839		2.122	1.779	
2.176	1.399	2.295		2.268	2.012	
2.185	1.742	1.907		1.625	2.221	
1.753	1.895	1.949		1.859	2.095	
2.096	1.814	1.980		2.079	1.913	
1.834	1.692	1.958		1.969	1.850	
1.760	2.116	1.850		2.035	2.200	
1.757	2.085	2.054		2.245	2.227	
2.056	2.127	2.322		2.024	1.958	
1.865	2.086	2.115		2.320	1.850	
1.701	2.031	2.036		2.292	1.879	
1.579	1.925	2.163		2.422	1.856	
2.054	1.910	2.085		2.349	1.870	
2.031	2.085	1.907		2.517	1.880	
2.153	1.988	2.508		2.269	1.680	
2.305	1.791	1.813		2.406	2.108	
2.144	2.133	2.261		2.413	1.861	
1.999	1.606	1.919		2.187	1.971	
2.253	1.827	2.111		2.185	2.037	
2.133	1.901	2.345		2.063	2.286	
1.876	2.107	2.414		2.126	2.001	
1.853	1.770	2.067		2.139	1.720	
2.126	1.869	1.835		2.335	2.107	
1.498	2.116	1.474		2.107	2.085	
2.102	1.664	1.915		2.259	1.958	
2.303	1.975	2.189		2.131	2.307	
1.581	2.196	1.971		2.423	2.109	
2.009	1.973	2.369		1.779	2.047	
1.729	2.256	1.888		2.482	2.108	
1.968	2.477	1.968		2.320	2.146	
2.136	2.196	1.753		2.603	2.015	
2.072	2.146	1.738		2.410	2.252	
1.975	2.131	1.849		2.274	2.092	
1.747	1.764	2.055		2.155	2.323	
2.000	2.001	2.122		2.303	2.368	
2.117	2.157	2.165		2.021	2.222	
2.020	2.180	1.919		2.082	2.224	
1.912	2.300	1.720		1.833	1.949	
2.164	1.878	2.299		1.803	2.153	
1.997	1.985	2.144		1.805	1.963	
2.100	2.153	1.956		2.392	2.237	
2.219	1.812	2.434		2.554	1.443	
2.214	2.061	2.201		2.329	2.171	
2.245	1.892	1.790		2.194	2.094	
1.820		2.096				

Individual Egg Mass Statistics						
N	100	99	100	34	99	99
Mean	1.957	1.965	2.055	2.114	2.167	2.085
Var. (S ²)	0.047	0.034	0.044	0.072	0.050	0.040
SEM	0.022	0.019	0.021	0.046	0.023	0.020

Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.057					
Var. (S ²)	0.007					
SEM	0.034					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
	2.037	2.689	2.230	2.309	2.919	3.041
DATE	2.895	2.707	2.605	2.376	2.525	3.191
05/15/00	2.177	2.255	2.584	2.932	2.572	1.614
	2.809	2.907	2.326	2.753	2.607	3.133
STUDY DAY	2.011	2.675	2.560	2.607	2.968	3.637
35	1.965	2.434	2.576	3.037	2.159	2.406
	2.611	2.003	2.476	2.894	2.193	2.578
STAGE	2.061	2.122	1.872	2.508	3.002	3.448
23	2.270	2.036	2.585	2.434	2.530	3.482
	2.223	2.321	2.734	2.502	2.580	3.308
	2.286	2.379	2.082	2.700	2.356	2.219
	1.863	2.677	2.475	2.621	2.400	2.679
	2.578	2.929	2.627	2.173	2.744	2.960
	2.317	2.257	2.453	2.915	2.401	2.780
	1.899	2.707	2.279	2.564	2.837	2.566
	2.071	2.986	1.968	2.739	3.146	3.117
	2.056	2.781	2.576	2.572	2.445	2.328
	2.157	2.335	2.550	1.773	2.724	2.197
	2.450	2.169	2.467	2.020	2.857	2.780
	2.158	2.907	2.393	2.589	2.537	2.779
	2.879	2.113	2.712	2.543	2.181	2.789
	2.723	2.794	2.847	3.536	2.859	2.802
	2.110	1.466	1.657	2.796	2.480	2.380
	2.608	2.172	2.580	3.503	2.354	2.946
	2.251	2.945	2.815	3.010	1.523	2.186
	2.036	2.315	2.242	3.164	2.673	2.753
	2.200	2.988	2.481	3.230	2.778	2.778
	1.571	2.879	2.457	3.001	2.610	3.085
	2.293	2.262	2.287	3.255	2.193	2.032
	2.785	2.419	2.603	3.133	2.547	1.738
	2.594	2.402	2.722	3.038	2.637	1.825
	2.738	2.157	2.440	3.267	2.613	2.604
	2.474	1.914	2.827		2.620	2.554
	2.464	2.550	2.193		2.659	2.358
	2.309	2.487	2.983		2.720	2.608
	2.297	2.677	2.767		1.821	2.586
	2.915	2.223	2.343		2.702	2.885
	1.984	2.693	2.132		2.430	2.640
	2.382	1.999	2.651		2.542	2.939
	2.587	2.794	2.716		2.542	3.041
	2.383	2.361	2.078		2.412	1.744
	2.767	2.341	2.894		2.287	2.450
	2.344	2.029	2.679		2.754	1.890
	2.578	2.779	3.014		2.774	2.397
	3.023	3.086	3.124		1.967	2.335
	2.560	2.375	2.319		2.791	2.845
	3.083	2.803	2.830		2.665	2.634
	2.526	2.789	2.813		2.584	2.296
	2.140	2.747	2.402		2.729	2.290
	2.382	2.867	2.500		2.646	2.477

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
2.747	2.061	2.854		2.560	2.496
3.181	2.884	3.061		2.300	2.460
2.435	2.533	2.836		3.331	2.574
2.293	2.885	2.408		2.177	2.154
2.560	2.723	3.068		2.566	2.300
2.062	2.477	2.665		2.572	2.271
2.328	2.430	2.415		2.437	2.898
2.835	2.889	2.685		2.859	2.540
2.401	2.768	2.248		2.332	2.518
2.225	2.941	2.477		2.973	2.995
2.282	2.209	2.684		2.694	2.502
2.778	2.481	2.798		3.502	2.278
2.488	2.665	2.587		3.106	2.467
2.522	2.271	2.411		3.026	2.344
2.189	2.907	2.936		2.988	2.527
2.807	2.843	2.595		3.120	2.759
2.242	2.424	2.540		2.706	2.326
2.685	3.072	2.729		2.806	2.472
2.300	2.667	2.553		3.301	2.181
2.763	2.397	2.037		3.387	2.694
2.600	2.798	2.715		3.053	2.349
	2.844	3.004		2.795	2.747
	2.481	2.579		2.326	2.876
	2.361	2.556		2.930	2.699
	3.130	2.619		3.008	2.197
	2.543	3.043		2.643	2.764
	2.658	2.286		2.620	2.853
	3.010	2.061		2.939	2.561
	2.679	2.487		3.186	2.881
	1.885	2.476		2.814	2.651
	2.295	2.836		3.239	2.868
	2.557	2.197		2.962	2.683
	2.575	2.817		2.850	2.561
	2.705	2.832		2.918	2.180
	2.845	2.578		2.812	
	2.026	2.921		3.184	
	2.772	2.578		2.204	
	2.963	2.328		2.879	
	2.806			3.223	
	2.335			2.982	
	2.591			3.000	
	2.534			2.789	
				2.836	
				2.991	
				2.983	
				2.526	
				3.051	
				3.357	
				3.018	

Individual Egg Mass Statistics

N	71	92	88	32	99	84
Mean	2.417	2.550	2.557	2.765	2.712	2.592
Var. (S ²)	0.102	0.107	0.082	0.167	0.118	0.147
SEM	0.038	0.034	0.031	0.072	0.035	0.042

Combined Egg Mass Statistics

Total N	6
Site Mean	2.599
Var. (S ²)	0.016
SEM	0.051

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
	1.506	2.996	1.526	3.133	2.357	3.533
DATE	3.655	2.569	4.188	2.507	2.857	2.807
06/29/00	1.513	3.222	4.277	2.044	3.060	2.679
	2.407	4.027	4.160	3.487	2.375	3.047
STUDY DAY	2.134	3.257	2.694	4.545	2.519	2.648
80	4.060	2.597	2.447	3.164	2.286	2.980
	2.404	3.223	2.144	3.360	3.437	2.931
STAGE	3.821	2.130	3.532	1.927	2.766	3.137
40	3.180	2.841	3.287	4.145	3.427	3.299
	3.870	3.267	2.353	3.078	2.716	2.445
	3.372	2.635	2.880	3.162	3.394	2.504
	1.849	2.534	2.606	3.338	2.029	3.688
	2.469	3.375	3.237		2.662	3.362
	4.068	3.206	2.733		2.390	3.001
	2.357	4.060	3.347		2.990	1.282
	2.532	2.105	2.451		3.269	3.342
	3.129	3.234	2.577		3.134	3.140
	3.625	3.169	3.837		3.114	2.590
	2.985	3.700	2.733		2.539	1.960
	2.663	3.547	2.654		3.507	2.915
	3.043	3.493	3.748		2.973	3.377
	3.112	3.861	2.734		2.076	1.989
	2.775	2.242	2.786		2.907	3.491
	3.700	3.308	3.073		3.683	2.568
	3.081	2.060	2.639		3.743	2.150
	3.767	3.449	4.093		2.885	3.269
	3.766	2.690	2.642		4.235	2.773
	3.064	2.825	2.972		3.476	3.416
		4.220	3.574		3.169	2.185
		3.400	3.321		2.767	2.230
		3.181	1.443		3.182	2.767
		3.329	4.219		4.070	2.521
		3.471	3.219		3.600	3.659
		3.467	2.287		2.791	3.663
		2.266	3.108		4.315	3.053
		3.211	3.523		2.296	2.278
		3.233	3.447		3.251	3.883
		2.661	2.600		3.283	3.208
		3.598	2.773		3.371	2.047
		2.241	2.569		3.296	3.186
		3.363	3.114		3.192	3.280
		2.738	3.311		3.982	2.601
		3.587	3.624		2.747	3.008
		2.937	2.697		3.594	2.929
		2.220	2.584		3.317	2.824
		2.569	2.206		2.669	3.206
		4.142	3.076		3.146	2.415
		3.367	3.350		3.428	3.020
		3.404	2.579		2.478	3.254
		3.781			3.163	3.005

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
	2.216			2.719	2.428
	3.220			3.865	3.021
	2.675			3.816	2.877
	3.363			2.408	3.736
	3.733			3.384	2.802
	2.898			3.699	3.017
	3.772			3.360	2.915
	3.616			3.638	3.114
	3.068				2.792
	3.026				2.941
	3.347				3.046
	2.998				3.258
	3.167				2.485
	2.933				2.484
	2.967				

Individual Egg Mass Statistics

N	28	65	49	12	58	64
Mean	2.997	3.123	2.999	3.158	3.117	2.898
Var. (S ²)	0.544	0.276	0.414	0.570	0.289	0.240
SEM	0.139	0.065	0.092	0.218	0.071	0.061

Combined Egg Mass Statistics

Total N	6
Site Mean	3.049
Var. (S ²)	0.010
SEM	0.041

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
	4.487	3.400	3.174		2.502	2.247
DATE	4.495	3.148	2.779		3.138	2.315
07/20/00	3.333	3.994	2.792		2.744	4.144
	3.733	3.178	2.415		3.085	3.208
STUDY DAY	3.057	3.724	2.296		4.234	2.783
101		3.428	2.735		2.967	3.432
		4.259	2.669		3.630	3.088
STAGE		3.614	4.016		3.890	3.368
40		3.350	3.541		3.630	3.273
		4.327	3.738		3.343	3.523
		3.236	3.314		2.874	3.105
		3.327	3.541		4.114	3.816
		4.577	3.984		2.843	3.316
		3.812			3.652	3.465
		3.367			3.436	3.534
		4.358			2.707	3.748
		2.780			4.203	3.990
		3.734			4.346	3.273
		4.001			4.538	2.764
		3.825			3.616	2.142
		2.191			2.949	3.027
		3.467			4.106	3.563
		3.211				4.057
		4.053				3.066
		3.999				3.776
		3.562				3.949
		2.928				3.394
						2.961
						2.563

Individual Egg Mass Statistics

N	5	27	13	0	22	29
Mean	3.821	3.587	3.153	na	3.479	3.272
Var. (S ²)	0.432	0.283	0.339	na	0.368	0.284
SEM	0.294	0.102	0.161	na	0.129	0.099

Combined Egg Mass Statistics

Total N	5
Site Mean	3.463
Var. (S ²)	0.069
SEM	0.118

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
DATE		4.105	3.388		3.205	1 larvae missing
08/21/00			3.291		3.644	From count
			1.568		3.864	
					2.902	
STUDY DAY					3.302	
133					3.697	
STAGE						
40						

Individual Egg Mass Statistics

N	0	1	3	0	6	0
Mean	na	4.105	2.749	na	3.436	na
Var. (S ²)	na	na	1.048	na	0.130	na
SEM	na	na	0.591	na	0.147	na

Combined Egg Mass Statistics

Total N	3
Site Mean	3.430
Var. (S ²)	0.459
SEM	0.391

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) (14.5 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	1-EM07	0-EM08	0-EM09	0-EM10
DATE			4.392		4.761	
09/11/00					4.214	
					2.975	
STUDY DAY						
154						
STAGE						
40						

Individual Egg Mass Statistics

N	0	0	1	0	3	0
Mean	na	na	4.392	na	3.983	na
Var. (S ²)	na	na	na	na	0.837	na
SEM	na	na	na	na	0.528	na

Combined Egg Mass Statistics

Total N	2
Site Mean	4.188
Var. (S ²)	0.083
SEM	0.204

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
0		0.870	0.847	0.746	0.854	0.775	0.955
5		1.543	1.433	1.330	1.637	1.659	1.671
10		1.827	1.802	1.840	1.678	1.885	1.768
16	21	2.006	2.008	2.199	1.967	2.217	2.004
20		2.132	2.038	2.312	2.160	2.397	2.093
25		2.285	2.252	2.328	2.206	2.433	2.295
37	23	2.556	2.521	2.491	2.362	2.604	2.377
72	36	3.792	2.804	2.761	2.798	2.715	2.618
110	38	3.817	3.346	3.190	3.018	3.263	3.329
142	41	5.262	3.815	3.723	3.095	na	na
173	40	na	na	na	4.009	na	na
184	40	na	na	na	3.092	na	na

Standard Error of Mean (SEM)

DAY	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
0	0.007	0.008	0.007	0.007	0.006	0.008
5	0.017	0.016	0.034	0.023	0.035	0.023
10	0.019	0.018	0.017	0.019	0.013	0.019
16	0.021	0.019	0.020	0.021	0.019	0.020
20	0.025	0.022	0.029	0.023	0.024	0.023
25	0.031	0.023	0.030	0.024	0.026	0.025
37	0.029	0.037	0.028	0.029	0.025	0.028
72	0.108	0.058	0.043	0.042	0.055	0.061
110	0.245	0.094	0.107	0.070	0.154	0.202
142	na	0.067	0.182	0.142	na	na
173	na	na	na	0.325	na	na
184	na	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	0.936	0.801	0.771	0.810	0.874	0.962
	0.931	0.742	0.733	0.819	0.845	0.957
04/08/00	0.921	0.820	0.690	0.804	0.876	0.946
	0.928	0.763	0.771	0.793	0.837	0.921
STUDY DAY	0.799	0.873	0.749	0.832	0.785	0.873
	0	0.915	0.727	0.762	0.676	0.963
STAGE	0.948	0.862	0.751	0.906	0.825	1.014
	0.796	0.918	0.723	0.804	0.673	0.943
	0.805	0.833	0.709	0.852	0.709	0.970
	0.796	0.892	0.826	0.836	0.702	1.041
	0.863	0.761	0.751	0.895	0.725	1.001
	0.926	0.865	0.729	0.842	0.770	0.918
	0.982	1.014	0.807	0.809	0.832	0.946
	0.754	0.908	0.701	0.690	0.781	0.904
	0.856	0.947	0.708	0.759	0.729	0.906
	0.972	0.838	0.864	0.863	0.733	1.020
	0.907	0.914	0.873	0.832	0.725	0.909
	0.886	0.932	0.835	0.874	0.733	0.793
	0.877	0.875	0.725	0.874	0.714	0.842
	0.860	0.765	0.839	0.673	0.779	0.895
	0.807	1.014	0.743	0.836	0.712	0.916
	0.856	0.862	0.676	0.830	0.683	0.922
	0.948	0.950	0.705	0.941	0.766	0.909
	0.770	0.925	0.735	0.752	0.647	0.997
	0.776	0.791	0.740	0.836	0.770	1.008
	0.866	0.806	0.687	0.852	0.837	0.991
	0.972	0.938	0.792	0.761	0.785	0.966
	0.821	0.870	0.636	0.976	0.874	0.877
	0.922	0.689	0.733	0.839	0.839	0.864
	0.965	0.839	0.670	0.970	0.781	0.940
	0.895	0.844	0.628	0.789	0.837	0.970
	0.879	0.758	0.692	0.874	0.868	0.949
	0.789	0.662	0.843	0.895	0.790	0.916
	0.835	0.798	0.733	0.877	0.783	1.027
	0.776	0.871	0.776	0.891	0.789	0.919
	0.896	0.909	0.810	0.866	0.578	0.891
	0.713	0.881	0.676	0.906	0.800	0.976
	0.775	0.868	0.761	0.762	0.728	0.842
	0.771	0.841	0.760	0.877	0.819	1.074
	0.862	1.028	0.819	0.771	0.745	1.037
	0.963	0.886	0.842	0.832	0.821	1.121
	0.898	0.761	0.625	0.800	0.810	0.912
	0.930	0.792	0.749	0.723	0.804	1.060
	0.945	0.734	0.711	0.909	0.801	0.981
	0.931	0.839	0.741	0.957	0.808	0.918
	0.833	0.695	0.748	0.930	0.889	0.918
	0.783	0.758	0.711	0.835	0.725	0.862
	0.747	0.898	0.655	0.862	0.759	0.842
	0.807	0.605	0.771	0.873	0.781	0.845
	0.926	0.859	0.665	0.895	0.809	0.997

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	0.860	0.833	0.783	0.859	0.798	1.029
	0.970	0.925	0.781	0.941	0.740	0.984
	0.907	0.798	0.759	0.903	0.877	0.940
	0.902	0.907	0.702	0.877	0.745	0.916
	0.805	0.875	0.776	0.877	0.705	1.043
	0.943	0.955	0.631	0.862	0.798	0.976
	0.811	0.885	0.676	0.819	0.823	0.922
	0.823	0.841	0.648	0.892	0.846	0.852
	0.948	0.964	0.729	0.862	0.770	1.064
	0.893	0.855	0.661	0.884	0.756	0.919
	0.973	0.811	0.741	0.904	0.798	1.020
	0.886	0.788	0.702	0.868	0.762	1.059
	0.779	0.675	0.649	0.962	0.800	0.982
	0.823	0.955	0.798	0.910	0.652	0.942
	0.976	0.839	0.783	0.947	0.768	1.041
	0.915	0.806	0.541	0.940	0.705	1.027
	0.803	0.774	0.819	0.915	0.772	1.024
	0.843	0.922	0.727	0.929	0.793	0.981
	0.851	0.848	0.800	0.998	0.772	1.052
	0.845	0.717	0.777	0.792	0.830	0.977
	0.913	0.783	0.756	0.873	0.804	0.859
	0.875	0.982	0.736	0.916	0.705	1.000
	0.864	0.920	0.701	0.836	0.702	0.991
	0.856	0.769	0.702	0.809	0.725	0.938
	0.839	0.846	0.739	0.836	0.726	0.663
	0.908	0.841	0.796	0.856	0.862	1.035
	0.886	0.813	0.772	0.733	0.723	1.046
	0.793	0.898	0.615	0.881	0.712	1.003
	0.970	0.811	0.772	0.870	0.801	0.952
	0.913	0.798	0.759	0.690	0.809	1.141
	0.884	0.815	0.755	0.801	0.714	0.895
	0.816	0.870	0.819	0.777	0.761	0.957
	0.807	0.892	0.713	0.869	0.732	0.974
	0.885	0.898	0.877	0.893	0.807	1.026
	0.831	0.841	0.725	0.873	0.772	0.869
	0.994	0.818	0.874	0.965	0.647	1.007
	0.913	0.972	0.916	0.895	0.857	0.997
	0.741	0.841	0.838	0.935	0.831	0.940
	0.734	0.795	0.727	0.909	0.787	0.949
	0.962	0.838	0.824	0.830	0.873	0.872
	0.941	0.862	0.809	0.835	0.895	1.000
	0.947	0.942	0.763	0.856	0.669	0.767
	0.879	0.949	0.676	0.762	0.804	1.053
	0.896	0.841	0.856	0.810	0.880	0.903
	0.817	0.903	0.825	0.907	0.777	0.957
	0.856	0.892	0.736	0.783	0.762	0.973
	0.744	0.827	0.649	0.693	0.862	0.807
	0.970	0.795	0.740	0.886	0.736	0.976
	0.803	0.803	0.729	0.824	0.676	0.973
	0.879	0.866	0.719	0.919	0.770	1.031
Individual Egg Mass Statistics						
N	100	100	100	100	100	100
Mean	0.870	0.847	0.746	0.854	0.775	0.955
Var. (S ²)	0.005	0.006	0.004	0.004	0.004	0.006
SEM	0.007	0.008	0.007	0.007	0.006	0.008
Combined Egg Mass Statistics						

VERNAL POOL *RANA sylvatica* STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	0.841					
Var. (S^2)	0.006					
SEM	0.030					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	1.770	1.399	1.584	1.125	1.978	1.757
DATE	1.540	1.542	1.350	1.604	1.002	1.704
04/13/00	1.789	1.341	1.350	1.563	1.891	1.879
	1.600	1.411	1.417	1.809	1.886	1.649
STUDY DAY	1.595	1.628	1.644	1.828	1.156	1.023
5	1.617	1.486	1.530	1.865	1.974	1.936
	1.710	1.420	1.595	1.861	1.079	1.985
STAGE	1.490	1.105	1.443	1.898	1.014	1.083
	1.189	1.213	1.414	1.941	1.042	1.902
	1.562	1.490	1.503	1.656	1.524	1.979
	1.501	1.179	1.622	1.801	1.806	1.856
	1.769	1.526	1.308	1.609	1.045	1.002
	1.751	1.398	1.237	1.633	1.886	1.779
	1.657	1.634	1.548	1.685	1.110	1.789
	1.301	1.342	1.446	1.062	1.158	1.944
	1.113	1.333	1.523	1.780	1.967	1.640
	1.375	1.361	1.280	1.721	1.923	1.864
	1.578	1.559	1.583	1.707	1.299	1.877
	1.484	1.443	1.675	1.898	1.965	1.553
	1.333	1.240	1.616	1.764	1.930	1.784
	1.503	1.498	1.602	1.835	1.780	1.720
	1.776	1.464	1.594	1.807	1.129	1.843
	1.530	1.280	1.563	1.604	1.613	1.537
	1.705	1.214	1.116	1.848	1.682	1.649
	1.542	1.598	1.440	1.579	1.957	1.723
	1.564	1.329	1.692	1.843	1.751	1.946
	1.776	1.463	1.106	1.146	1.036	1.849
	1.635	1.351	1.652	1.839	1.998	1.353
	1.217	1.389	1.623	1.799	1.271	1.422
	1.778	1.418	2.016	1.943	1.720	1.857
	1.763	1.489	1.555	1.372	1.690	1.673
	1.614	1.379	1.653	1.765	1.965	1.338
	1.602	1.442	0.534	1.513	1.984	1.828
	1.630	1.575	1.212	1.637	1.585	1.212
	1.739	1.502	1.384	1.610	1.654	1.832
	1.458	1.572	1.365	1.589	1.887	1.763
	1.527	1.592	1.206	1.654	1.962	1.917
	1.456	1.468	1.405	1.572	1.998	1.466
	1.511	1.562	1.344	1.750	1.807	1.744
	1.634	1.555	1.555	1.782	1.857	1.868
	1.536	1.416	1.594	1.957	1.895	1.774
	1.097	1.221	1.867	1.702	1.901	1.220
	1.553	1.540	0.946	1.856	1.942	1.451
	1.653	1.462	1.457	1.912	1.245	1.627
	1.317	1.459	1.504	1.354	1.299	1.828
	1.665	1.352	0.646	1.489	1.912	1.656
	1.668	1.542	0.785	1.923	1.936	1.550
	1.276	1.245	1.402	1.607	1.025	1.834
	1.602	1.205	1.597	1.813	1.277	1.313
	1.461	1.187	1.307	1.146	1.901	1.422

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	1.584	1.722	0.641	1.386	1.519	1.317
	1.497	1.471	1.493	1.797	1.487	1.658
	1.456	1.353	1.465	1.367	1.956	1.853
	1.627	1.571	1.285	1.803	1.241	1.358
	1.653	1.468	1.515	1.835	1.254	1.568
	1.081	1.723	0.556	1.017	1.827	1.509
	1.137	1.362	1.553	1.896	1.638	1.760
	1.650	1.735	0.634	1.757	1.018	1.185
	1.556	1.521	0.634	1.787	1.162	1.806
	1.484	1.670	1.541	1.615	1.655	1.197
	1.543	1.477	0.621	1.664	1.827	1.489
	1.640	1.461	1.416	1.835	1.972	1.699
	1.630	1.530	0.617	1.884	1.464	1.686
	1.645	1.306	1.506	1.482	1.868	1.885
	1.623	1.304	1.384	1.515	1.927	1.705
	1.613	1.378	0.724	1.681	1.243	1.782
	1.818	1.602	1.392	1.448	1.994	1.589
	1.610	1.134	0.739	1.739	1.943	1.714
	1.600	1.311	1.472	1.487	1.916	1.493
	1.684	1.378	1.386	1.718	1.751	1.694
	1.071	1.391	0.763	1.644	1.834	1.851
	1.154	1.247	1.444	1.853	1.082	1.869
	1.767	1.289	0.768	1.596	1.867	1.842
	1.662	1.226	0.824	1.755	1.976	1.865
	1.726	1.086	1.786	1.034	2.068	1.795
	1.561	1.293	1.433	1.882	1.549	1.839
	1.348	1.319	1.476	1.095	1.964	1.897
	1.438	1.688	1.041	1.891	1.043	1.715
	1.394	1.679	1.475	1.355	2.091	1.888
	1.744	1.414	1.514	1.629	1.861	1.423
	1.739	1.593	1.559	1.663	1.194	1.716
	1.567	1.432	1.294	1.452	1.957	1.746
	1.539	1.450	1.374	1.606	1.761	1.498
	1.548	1.679	1.504	1.640	1.891	1.848
	1.555	1.653	1.348	1.798	1.295	1.531
	1.681	1.530	1.419	1.002	2.089	1.832
	1.612	1.469	1.580	1.338	1.709	1.596
	1.619	1.542	0.773	1.895	1.474	1.497
	1.613	1.639	1.407	1.651	1.363	1.704
	1.429	1.217	0.733	1.492	1.158	1.680
	1.481	1.218	1.787	1.621	2.031	1.783
	1.320	1.037	1.751	1.278	1.179	1.211
	1.440	1.377	1.281	1.406	1.872	1.874
	1.625	1.502	1.458	1.530	2.129	1.809
	1.449	1.636	0.794	1.526	2.023	1.669
	1.596	1.334	1.415	1.344	1.433	1.774
	1.305	1.422	1.625	1.662	2.004	1.787
	1.489	1.402	1.301	1.541	2.053	1.896
	1.607	1.715	0.630	1.774	1.994	1.864
	1.537	1.492	1.452	1.944	1.955	
Individual Egg Mass Statistics						
N	100	100	100	100	100	99
Mean	1.543	1.433	1.330	1.637	1.659	1.671
Var. (S ²)	0.029	0.024	0.117	0.054	0.122	0.051
SEM	0.017	0.016	0.034	0.023	0.035	0.023
Combined Egg Mass Statistics						

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	1.545					
Var. (S ²)	0.019					
SEM	0.057					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	1.839	2.037	1.948	1.607	1.722	1.724
04/18/00	2.035	2.058	1.877	2.013	1.792	1.740
STUDY DAY	1.725	1.820	2.008	1.385	1.901	1.657
10	1.714	1.817	2.211	1.830	1.854	1.741
STAGE	1.986	1.757	1.966	1.823	1.906	1.541
	1.767	1.858	1.879	1.877	1.910	1.433
	1.649	1.931	1.993	1.989	1.991	1.439
	2.165	1.968	1.915	1.891	1.970	1.675
	1.886	1.874	1.887	1.693	1.913	1.892
	1.296	1.920	1.803	1.595	1.666	1.702
	1.718	2.001	1.952	1.611	1.907	1.645
	1.578	1.928	2.026	1.434	1.855	1.586
	1.904	1.920	1.938	1.594	1.735	1.787
	1.714	1.609	1.910	1.864	1.697	1.357
	1.753	1.990	1.894	1.501	1.744	1.756
	1.824	1.537	1.893	1.362	1.873	1.667
	1.702	1.929	1.946	1.729	1.794	1.558
	1.826	1.224	1.887	1.946	2.039	1.873
	1.678	1.655	2.115	1.777	1.660	1.759
	1.826	1.757	2.197	1.808	1.754	1.621
	1.456	1.708	1.849	1.614	1.571	1.513
	1.912	1.748	1.848	1.746	1.982	1.707
	2.053	1.743	1.534	1.054	1.787	1.494
	1.565	1.784	1.704	1.743	2.040	1.182
	1.859	1.975	1.910	1.644	2.088	1.666
	2.086	1.698	1.708	1.540	1.765	2.080
	1.728	1.689	1.932	1.755	1.841	1.537
	2.145	2.091	1.796	1.619	1.789	2.100
	1.776	1.711	1.844	1.743	1.780	1.685
	1.839	1.726	1.756	1.637	1.930	1.795
	1.617	1.388	1.855	1.598	1.877	1.958
	1.929	1.617	1.833	1.479	1.819	2.006
	2.064	1.760	1.851	1.625	1.860	1.941
	1.871	1.937	1.779	1.591	1.924	1.867
	1.716	1.310	1.854	1.582	1.645	1.853
	2.028	1.696	1.656	1.518	1.848	1.914
	1.744	1.856	2.039	1.550	2.004	2.222
	2.057	1.860	1.950	1.590	1.740	2.134
	2.029	1.812	1.782	1.838	1.894	1.749
	1.665	1.834	2.006	1.676	1.936	1.761
	1.750	1.817	2.077	1.675	1.969	1.614
	1.845	1.494	1.708	1.665	1.837	1.862
	1.806	1.765	1.783	1.759	1.827	1.802
	2.045	1.717	1.733	1.770	1.798	1.993
	2.107	1.775	1.967	1.288	1.762	1.772
	1.634	1.901	1.937	1.787	1.874	1.471
	1.994	1.669	1.752	1.725	1.742	1.802
	2.065	1.779	1.770	1.648	1.891	1.844
	1.917	1.698	1.663	1.569	1.944	2.064
	1.871	1.771	2.105	1.600	2.042	1.904

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
1.701	1.934	1.941	1.934	1.783	1.735
1.939	1.779	1.848	1.716	1.750	1.787
2.128	1.804	1.803	1.863	1.844	2.152
1.979	1.657	2.078	1.758	1.811	1.976
1.812	1.906	1.766	1.826	1.600	2.056
2.017	1.929	1.730	1.940	1.843	2.146
1.622	1.697	1.668	1.793	1.987	1.877
1.900	1.928	1.900	1.828	1.919	1.831
1.959	1.799	1.826	1.734	2.137	1.937
1.681	1.776	1.717	1.710	1.813	1.795
1.969	1.835	1.832	1.916	2.087	1.597
1.671	2.052	1.806	1.789	1.769	1.602
1.993	1.718	2.200	1.643	1.764	1.978
1.820	1.794	1.162	1.839	2.037	1.794
1.697	1.719	2.008	1.769	2.147	1.792
1.510	1.903	1.927	1.702	1.957	1.744
1.540	1.866	1.880	1.813	1.774	1.736
1.813	1.646	1.818	1.618	1.950	1.627
1.546	1.628	2.029	1.540	2.001	1.738
1.972	1.939	1.726	1.903	1.782	1.599
1.820	2.138	1.529	1.654	1.788	1.486
1.888	1.429	1.787	1.792	2.292	1.775
1.738	1.637	1.561	1.932	1.808	1.848
1.594	1.751	1.678	0.973	1.869	1.781
1.882	1.991	1.801	1.733	1.833	1.801
1.933	1.909	1.923	1.603	2.188	1.508
1.774	2.194	1.814	1.680	2.088	1.855
1.919	1.641	2.009	1.066	2.027	1.792
1.772	1.840	1.744	1.591	1.844	1.786
1.900	1.843	2.012	1.586	2.030	1.887
1.940	2.042	1.542	1.803	1.912	1.963
1.081	1.630	1.869	1.632	1.824	1.972
1.823	1.822	1.757	1.606	1.867	1.873
1.789	1.705	1.837	1.607	1.801	1.805
1.673	1.979	1.429	1.575	1.848	1.607
2.141	1.712	2.072	1.480	1.897	1.665
2.022	1.505	1.722	1.758	1.993	1.554
1.932	2.108	1.971	1.841	2.007	1.842
1.837	2.010	1.770	1.502	1.978	1.813
2.025	2.098	1.933	1.652	2.170	1.711
1.859	1.772	1.847	1.725	1.916	1.830
1.763	1.622	1.701	1.759	2.052	1.853
1.655	1.719	1.776	1.605	1.807	1.826
2.106	1.859	1.806	1.641	1.990	1.736
1.813	2.019	1.668	2.027	2.051	1.694
1.619	1.833	1.652	1.311	1.810	1.576
1.616	1.894	1.515	1.824	1.991	1.931
1.844	1.522	1.689	1.771	1.992	1.530
1.870	1.954	1.866	1.853	1.759	
2.009			1.654	1.801	

Individual Egg Mass Statistics						
N	100	99	99	100	100	98
Mean	1.827	1.802	1.840	1.678	1.885	1.768
Var. (S ²)	0.035	0.031	0.027	0.035	0.017	0.034
SEM	0.019	0.018	0.017	0.019	0.013	0.019

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	1.800					
Var. (S ²)	0.005					
SEM	0.029					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	1.987	2.084	2.188	1.975	2.422	1.831
04/24/00	1.955	1.936	2.504	2.266	2.405	1.757
	2.112	2.305	1.952	2.261	2.356	1.674
STUDY DAY	1.900	1.902	2.245	1.831	2.300	1.745
16	2.083	2.102	2.339	2.065	2.388	1.712
	1.905	2.019	2.138	2.227	2.500	1.786
	1.948	2.434	2.081	1.940	2.541	1.564
STAGE	1.598	2.395	2.164	2.001	2.563	2.103
21	1.987	1.932	2.466	2.303	2.359	1.695
	2.146	2.063	2.306	2.217	2.299	1.913
	2.076	2.445	2.003	1.690	2.169	1.930
	1.871	2.298	2.480	2.225	1.910	1.812
	2.012	2.085	2.118	2.102	2.435	1.844
	1.911	2.018	2.460	2.226	2.424	1.637
	2.060	2.142	2.019	1.938	2.225	1.751
	1.853	2.102	2.110	2.284	2.418	1.817
	1.943	1.813	2.254	2.028	2.424	1.601
	2.163	1.913	2.127	1.987	2.531	1.616
	2.013	2.119	2.222	1.559	1.992	1.833
	1.966	2.027	2.306	1.866	2.426	1.982
	1.306	1.855	2.475	1.723	2.252	1.787
	2.147	2.172	2.079	1.794	1.972	1.920
	1.959	2.165	2.026	2.037	1.860	1.722
	1.893	1.821	2.303	2.096	2.125	2.069
	2.481	1.873	2.374	1.965	2.207	1.722
	1.943	2.026	2.212	2.178	1.778	2.179
	2.038	1.826	2.232	1.707	2.225	1.894
	1.901	2.195	2.298	2.109	2.399	2.280
	2.233	1.860	2.094	1.910	2.240	2.036
	2.180	1.666	2.403	2.029	2.400	2.300
	1.844	2.048	2.206	2.135	2.004	2.209
	1.961	1.827	2.158	1.811	2.457	1.812
	2.230	2.140	2.329	1.648	1.924	2.213
	2.128	1.782	2.389	1.840	2.232	2.171
	2.205	1.990	2.200	1.719	1.983	2.181
	2.372	2.249	2.279	1.568	2.098	2.315
	1.641	1.989	2.139	1.921	2.221	2.399
	1.656	1.883	2.584	1.975	2.112	2.356
	2.066	2.091	2.232	2.175	2.294	2.314
	1.830	2.170	2.480	1.904	2.320	2.056
	2.046	1.922	2.233	2.107	2.066	2.112
	2.009	1.644	2.233	2.035	2.030	2.303
	2.371	1.746	2.489	2.012	1.955	2.089
	1.914	1.817	2.134	1.134	2.076	2.151
	1.781	1.938	2.361	2.027	2.297	1.967
	1.892	1.848	2.510	1.809	2.112	2.143
	1.799	1.723	2.302	2.198	2.419	2.155
	2.059	1.820	2.289	2.278	2.274	2.188
	2.269	1.927	2.367	1.959	2.086	1.990
	2.243	2.057	2.186	1.358	2.152	2.119

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	1.961	2.167	2.342	2.186	2.228	2.141
	2.002	1.909	2.236	2.130	2.101	2.195
	2.153	2.039	2.147	1.982	2.302	2.336
	1.809	1.913	2.256	1.940	2.315	2.043
	1.762	2.057	1.988	2.146	2.219	1.936
	1.428	1.909	1.971	2.118	2.203	1.918
	1.796	1.820	2.094	2.018	2.099	1.997
	1.991	2.154	2.053	2.167	2.242	1.901
	2.176	1.981	2.821	1.772	2.265	1.961
	2.203	2.134	2.032	2.321	1.970	2.126
	2.149	1.791	1.997	1.829	2.153	2.084
	2.334	1.800	2.336	1.747	2.643	2.106
	2.084	2.043	2.272	2.032	2.166	1.936
	2.268	2.062	2.412	2.021	2.380	2.122
	2.115	1.987	2.191	2.211	2.355	2.103
	1.612	2.002	2.062	1.990	2.399	1.705
	2.283	1.956	2.243	1.868	2.270	2.018
	1.752	2.119	2.481	1.834	2.293	2.201
	1.996	2.091	2.522	1.994	2.173	2.144
	2.163	2.116	1.997	2.177	1.776	1.981
	1.568	2.078	2.313	1.756	2.584	1.809
	2.031	2.106	2.109	1.616	2.141	1.717
	1.657	2.206	1.965	2.137	2.063	1.977
	2.059	1.961	2.178	1.751	1.811	2.022
	1.797	2.036	1.826	2.318	2.190	2.181
	1.939	1.927	2.016	1.953	2.415	2.202
	1.990	2.176	2.297	2.038	2.262	2.157
	1.984	1.825	2.054	2.068	2.606	1.665
	1.799	1.960	2.101	1.705	2.354	2.029
	1.893	1.732	2.358	1.955	2.460	2.076
	2.083	2.463	2.011	1.900	2.232	1.875
	2.314	1.936	2.238	1.966	1.950	2.156
	2.292	2.114	1.952	2.107	1.741	2.230
	2.074	1.994	2.101	1.750	2.275	2.339
	1.757	1.907	1.801	2.050	1.918	2.056
	2.129	2.038	1.857	1.917	2.164	2.151
	2.055	2.135	1.565	1.876	2.121	2.039
	2.169	1.997	2.188	2.041	2.290	2.267
	2.122	2.064	2.139	1.830	2.024	1.847
	2.355	2.162	2.141	2.046	2.123	1.900
	2.328	2.040	2.307	2.307	2.364	2.145
	2.043	1.930	1.955	2.060	1.902	2.129
	2.228	2.022	2.195	1.706	2.292	2.158
	2.068	1.887	1.758	2.066	2.166	1.652
	2.001	2.505	2.419	1.983	2.143	1.868
	2.029	1.920	2.187	1.735	2.119	2.088
	1.911	2.268	2.185	1.719	2.197	2.071
	2.015	1.162	1.811	1.947	2.130	1.886
	1.958		2.168	2.159	2.271	
				1.615	2.162	
<hr/>						
Individual Egg Mass Statistics						
N	99	98	99	100	100	98
Mean	2.006	2.008	2.199	1.967	2.217	2.004
Var. (S ²)	0.043	0.037	0.039	0.046	0.037	0.041
SEM	0.021	0.019	0.020	0.021	0.019	0.020
Combined Egg Mass Statistics						

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.067					
Var. (S ²)	0.012					
SEM	0.045					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	1.795	2.115	2.477	2.472	2.520	1.840
04/28/00	1.864	2.104	2.094	2.382	2.379	2.019
	2.410	2.507	2.410	2.277	2.504	2.035
STUDY DAY	2.163	1.973	2.318	1.856	2.476	1.894
20	2.394	1.758	2.401	1.976	2.271	1.527
	2.113	2.192	2.092	2.540	2.560	1.782
STAGE	1.979	2.037	1.792	2.125	2.346	2.088
	1.900	2.158	2.599	2.184	2.671	1.896
	1.878	2.200	2.253	2.354	2.420	1.773
	1.927	2.144	1.798	2.368	2.522	2.283
	2.120	1.976	2.279	1.960	2.321	1.954
	1.676	1.894	2.375	1.737	2.833	2.047
	1.832	1.604	2.088	2.441	2.278	1.868
	2.075	1.821	2.403	2.061	2.217	2.147
	2.057	2.193	2.156	1.988	2.738	2.084
	1.649	2.300	2.164	1.996	2.205	2.066
	1.721	1.924	1.955	2.476	2.706	1.986
	2.076	1.835	2.606	2.519	2.238	2.209
	2.054	1.933	2.236	2.304	2.485	2.032
	1.887	2.186	2.599	2.368	2.435	2.153
	2.082	1.833	2.302	2.505	2.931	1.761
	2.161	1.735	2.122	2.384	2.176	2.052
	1.546	1.848	2.774	2.183	1.966	2.068
	1.651	2.300	2.792	1.803	2.350	1.901
	1.720	2.087	2.336	2.295	2.684	1.931
	2.159	1.926	2.561	1.884	2.331	1.538
	1.978	1.808	2.003	2.112	2.782	2.165
	2.387	1.587	2.342	2.399	2.581	2.248
	2.040	2.368	2.373	2.180	2.363	2.050
	2.210	1.661	1.884	2.106	2.375	1.740
	2.266	1.826	2.327	1.868	2.597	2.266
	2.403	1.878	2.515	2.184	2.716	1.968
	1.798	2.051	2.157	2.081	1.899	2.213
	2.329	2.098	2.618	2.273	2.256	1.704
	2.600	1.839	2.330	2.149	2.168	1.923
	1.791	1.840	2.683	2.354	2.312	1.800
	2.294	2.028	2.770	2.171	2.432	2.261
	1.927	1.961	2.433	2.049	2.337	2.216
	2.165	2.318	2.829	2.390	2.141	2.017
	2.183	2.000	2.565	2.504	2.170	2.034
	2.084	2.171	2.513	1.923	2.045	2.530
	2.370	2.079	2.438	2.494	2.193	2.374
	2.108	2.050	2.697	1.971	2.050	2.355
	2.359	2.037	1.526	2.223	2.381	2.481
	2.167	2.218	2.262	2.119	2.286	2.184
	2.214	1.930	2.386	1.902	1.887	2.176
	2.216	1.857	2.408	2.070	2.219	2.309
	2.514	2.138	1.772	1.766	2.594	2.313
	2.222	2.135	2.126	1.930	2.631	2.627
	2.156	2.151	2.625	2.073	2.341	1.843

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	2.542	1.970	2.003	2.251	2.405	2.432
	2.199	1.691	2.513	2.191	2.401	2.358
	2.484	2.200	2.441	2.251	2.222	2.252
	2.711	1.979	2.455	2.202	2.582	2.141
	2.273	1.748	2.051	2.322	2.722	2.247
	2.263	2.037	2.735	2.152	2.421	2.120
	2.428	1.953	1.573	2.274	2.122	2.327
	1.864	2.069	1.800	2.472	2.678	2.221
	2.038	2.193	2.069	2.171	2.657	2.153
	2.221	2.083	2.179	2.185	2.835	1.992
	2.311	2.221	2.743	1.899	2.449	2.103
	1.908	2.030	2.429	2.335	2.179	2.222
	2.319	2.002	2.374	2.268	2.112	2.121
	2.215	1.467	2.440	2.138	2.660	2.456
	2.008	1.734	2.149	2.036	2.167	2.215
	1.520	2.193	2.444	2.131	2.175	1.890
	2.133	1.926	2.143	2.223	2.261	1.811
	2.282	1.590	2.419	2.387	2.900	2.211
	2.088	1.928	2.330	1.908	3.003	2.126
	2.036	1.724	2.160	1.929	2.081	2.084
	2.353	1.976	2.190	2.094	2.328	1.998
	2.170	1.552	2.334	1.626	2.315	2.793
	1.927	2.361	2.667	1.192	2.089	1.909
	2.045	2.206	2.355	2.600	1.975	2.307
	2.372	2.623	2.538	2.441	2.488	1.939
	2.482	2.370	2.318	1.976	2.022	2.233
	2.159	1.909	2.121	1.823	2.335	2.255
	2.574	2.037	2.391	2.111	2.319	2.176
	2.257	2.091	2.196	2.222	2.690	2.465
	2.428	2.119	2.090	2.409	2.281	2.022
	2.493	2.368	2.741	2.141	2.095	1.938
	2.281	2.462	1.950	2.151	2.518	2.151
	2.289	2.320	2.418	2.143	2.335	1.905
	2.491	2.041	1.425	1.938	2.563	1.899
	2.183	2.219	2.748	2.128	2.191	2.309
	2.392	2.140	2.526	1.944	2.229	1.914
	2.251	2.431	2.562	2.370	2.330	1.917
	2.245	2.000	2.529	2.028	2.446	1.933
	2.060	1.939	2.491	2.231	2.596	1.873
	1.896	1.928	2.116	2.103	2.467	1.969
	1.850	1.886	1.632	2.026	2.183	2.461
	2.043	2.443	2.549	2.161	2.399	1.868
	1.798	2.184	2.096	2.195	2.560	2.083
	2.196	2.075	2.461	1.873	2.604	2.131
	1.839	2.208	2.469	2.545	2.438	1.891
	2.044	2.209	2.285	1.966	2.291	2.248
	2.241	2.220	2.417	2.204	2.447	2.451
	2.008	2.084	2.267	2.320	2.589	1.831
	2.222		1.956	2.289	2.340	
				2.289	2.852	
<hr/>						
Individual Egg Mass Statistics						
N	99	98	99	100	100	98
Mean	2.132	2.038	2.312	2.160	2.397	2.093
Var. (S ²)	0.060	0.049	0.085	0.052	0.056	0.051
SEM	0.025	0.022	0.029	0.023	0.024	0.023
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Combined Egg Mass Statistics						

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.189					
Var. (S ²)	0.019					
SEM	0.056					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	2.257	2.130	2.307	2.562	2.509	2.245
DATE	2.184	1.988	2.170	2.451	2.715	2.305
05/03/00	2.219	2.109	2.240	1.896	2.549	2.095
	2.152	2.166	2.206	2.257	2.114	1.839
STUDY DAY	2.121	2.145	2.202	2.068	1.878	1.963
25	1.986	2.252	2.588	2.137	2.684	2.623
	1.950	2.071	2.594	2.276	2.548	2.290
STAGE	2.101	2.248	2.314	2.351	2.534	2.107
	2.086	2.400	2.381	2.201	2.326	2.402
	2.107	2.465	2.625	2.410	2.591	2.533
	2.143	1.896	2.326	2.306	2.553	2.138
	2.357	2.153	2.330	2.725	2.691	1.898
	2.128	2.591	2.064	2.471	2.697	1.994
	1.940	2.375	2.369	2.267	2.374	1.714
	1.839	2.524	2.425	2.549	2.550	1.890
	2.258	1.975	2.125	2.066	2.477	1.853
	2.301	2.216	2.328	2.331	2.688	2.807
	1.852	2.487	2.023	2.458	1.844	2.317
	2.163	2.014	2.255	2.373	2.183	2.389
	2.117	1.976	2.045	1.965	2.415	1.542
	1.963	2.165	2.503	2.066	2.526	2.563
	2.514	2.848	2.027	2.420	2.385	2.746
	1.878	2.085	2.198	2.524	2.454	2.422
	2.162	2.255	2.366	2.033	2.412	1.930
	2.035	1.836	2.361	2.786	2.569	2.360
	2.473	2.036	2.743	2.665	2.550	2.360
	1.826	2.364	2.499	2.523	2.560	2.365
	2.056	1.891	2.166	1.903	2.301	2.518
	2.601	1.746	2.042	1.990	2.227	2.323
	2.294	1.960	2.476	1.833	2.143	2.282
	2.462	1.867	1.923	2.363	2.371	2.475
	2.727	1.995	2.574	2.240	2.101	2.454
	2.612	2.109	2.211	2.072	2.370	2.176
	2.479	2.118	2.581	2.422	2.457	2.160
	2.297	2.121	2.597	2.297	2.299	2.022
	2.743	1.851	1.923	2.426	2.184	2.397
	2.622	2.366	2.106	1.986	2.750	2.380
	2.335	2.368	2.201	1.896	2.549	2.558
	2.336	2.343	2.453	2.087	2.206	2.273
	2.542	2.634	1.416	2.306	2.709	2.472
	2.614	2.004	2.034	1.766	3.017	2.013
	1.509	2.216	2.268	2.152	2.563	2.456
	2.660	2.316	2.312	2.272	2.453	2.175
	1.720	2.472	2.504	2.122	2.223	2.222
	2.687	2.129	1.975	2.390	2.095	2.496
	2.404	2.084	2.119	2.200	2.683	2.034
	2.917	2.141	2.373	2.551	1.707	2.136
	2.059	2.381	2.331	2.275	2.672	2.418
	2.219	2.358	2.579	1.940	2.651	2.073
	1.824	2.443	2.629	2.088	2.450	2.205

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	2.671	2.247	2.353	1.461	2.238	2.151
	2.347	2.157	2.594	1.961	2.548	2.344
	2.662	1.746	1.897	2.447	2.454	2.320
	2.731	2.202	2.495	2.174	2.471	2.040
	2.388	1.945	2.275	1.791	2.266	2.285
	2.609	2.048	2.465	2.570	2.413	1.885
	2.478	1.802	2.257	2.389	2.061	2.139
	2.520	2.467	2.260	2.118	2.114	2.119
	2.197	2.248	2.320	2.233	2.209	2.275
	2.894	2.262	2.440	2.063	2.319	2.247
	2.262	2.354	1.994	2.632	1.996	1.878
	2.777	2.075	2.101	2.244	2.256	2.070
	2.591	2.328	2.444	2.073	2.669	2.311
	2.060	2.310	2.425	2.064	2.625	2.179
	2.280	2.559	2.258	2.332	2.447	2.309
	2.231	2.479	1.871	2.392	3.275	2.488
	1.717	2.580	2.589	2.351	2.609	2.462
	2.507	2.379	2.206	1.873	2.602	2.309
	2.451	2.332	2.267	1.982	2.686	2.204
	2.197	2.149	1.826	2.091	2.541	2.500
	2.448	2.607	2.065	2.033	2.365	2.097
	2.493	2.603	1.846	2.115	2.095	2.413
	2.747	2.299	2.138	2.002	2.327	2.442
	2.394	2.517	1.777	1.983	2.493	2.705
	2.292	2.166	2.810	2.185	2.791	2.608
	2.211	2.101	2.871	2.120	2.238	2.721
	2.560	2.212	2.517	2.103	2.548	2.606
	2.254	2.389	2.341	2.243	2.454	2.640
	2.438	2.420	2.700	2.279	2.471	2.487
	2.048	2.272	2.660	2.358	2.266	2.404
	2.400	2.184	2.672	2.441	2.413	2.449
	2.391	2.582	2.440	1.973	2.061	2.842
	2.304	2.719	2.798	2.220	2.114	2.443
	2.139	2.309	1.193	1.787	2.209	2.050
	2.489	2.438	2.229	2.348	2.319	2.231
	2.244	2.387	2.335	2.515	1.996	2.286
	2.097	2.392	2.717	2.065	2.256	2.334
	1.880	2.249	2.421	2.019	2.669	2.246
	1.787	2.630	2.543	2.100	2.625	2.445
	1.624	2.670	2.858	2.530	2.447	2.350
		2.152	2.524	2.205	3.275	2.468
		1.979	2.580	2.287	2.609	2.483
		2.101	2.751	2.117	2.602	2.433
		2.143	2.826	1.761	2.686	2.722
		2.532	2.082	1.919	2.541	2.238
		2.331	2.586	1.942	2.365	2.141
		2.555	2.263	2.518	2.095	2.444
		2.407	2.816	2.229	2.327	
				2.031	2.493	
				2.210	2.791	
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Individual Egg Mass Statistics						
N	90	98	98	100	100	97
Mean	2.285	2.252	2.328	2.206	2.433	2.295
Var. (S ²)	0.088	0.054	0.088	0.057	0.068	0.059
SEM	0.031	0.023	0.030	0.024	0.026	0.025
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Combined Egg Mass Statistics						

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.300					
Var. (S ²)	0.006					
SEM	0.032					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	2.541	2.317	2.092	2.746	2.926	2.513
DATE	2.618	2.205	2.182	2.660	2.534	2.780
05/15/00	2.191	1.894	2.563	2.510	2.879	1.885
	2.587	2.228	2.929	2.462	2.810	2.255
STUDY DAY	3.282	2.870	2.325	2.387	2.755	2.456
37	2.454	3.055	2.878	2.242	2.735	2.368
	2.351	2.804	1.979	2.418	2.091	2.050
STAGE	2.487	2.370	2.609	2.105	2.518	2.192
23	2.549	2.103	2.469	2.961	2.685	2.341
	2.243	2.323	2.313	2.762	2.758	2.682
	2.900	2.146	2.610	2.667	2.643	2.148
	2.223	2.934	2.575	2.605	2.847	2.655
	1.789	2.469	2.994	2.512	2.327	2.432
	2.443	2.111	2.105	2.870	2.158	2.237
	2.608	2.663	2.166	2.648	2.434	2.392
	2.726	1.590	2.454	2.320	2.693	2.414
	2.690	2.423	2.160	2.069	2.028	2.142
	2.463	1.990	3.033	2.637	2.285	2.469
	2.181	2.423	2.489	2.835	2.653	2.280
	2.273	2.553	2.401	2.693	2.813	2.382
	2.410	2.484	2.360	2.846	2.761	1.678
	2.459	2.125	2.632	2.671	2.802	2.829
	2.738	2.208	2.208	2.421	2.679	2.217
	2.250	2.216	2.593	2.523	2.437	2.258
	2.749	2.982	2.222	2.526	2.491	2.254
	2.241	2.130	2.662	2.586	2.435	2.280
	2.560	2.216	2.209	2.390	2.289	2.466
	2.438	2.585	2.664	2.409	2.456	2.279
	2.443	2.171	2.280	2.552	2.537	1.979
	2.517	2.318	1.843	2.753	2.495	2.513
	2.127	2.271	2.585	2.835	2.841	2.719
	2.242	2.704	2.114	2.568	2.797	2.207
	2.653	2.246	2.610	2.992	2.336	2.311
	2.628	2.164	2.263	2.731	2.626	2.794
	2.538	3.093	2.693	2.357	2.662	2.171
	2.783	2.364	2.659	2.349	2.108	2.390
	2.764	3.086	2.519	2.379	2.687	2.814
	2.409	2.225	2.596	2.174	2.450	2.427
	3.165	2.235	2.672	1.982	2.693	2.750
	2.837	2.263	2.820	2.693	2.286	2.622
	2.292	2.205	2.274	2.297	2.283	2.829
	2.495	2.602	2.409	1.801	2.747	2.498
	2.780	2.294	2.894	2.005	2.831	2.655
	2.881	2.353	2.449	2.781	2.170	2.242
	2.716	2.668	2.526	2.244	2.700	2.536
	2.443	3.239	2.327	2.343	2.559	2.196
	2.514	2.666	2.794	2.242	2.236	2.478
	2.747	2.985	2.549	2.484	2.517	2.387
	3.199	3.104	2.492	2.354	2.586	2.354
	2.241	2.098	2.575	1.996	2.994	1.980

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
2.854	2.329	2.499	1.974	2.355	2.241
2.628	2.759	2.359	2.018	2.637	1.745
2.679	3.053	2.325	2.252	2.347	2.341
2.822	3.113	2.589	2.391	2.642	2.293
2.864	2.641	2.602	2.323	2.462	2.294
2.487	2.793	2.607	2.314	2.768	2.390
2.690	1.638	2.551	2.495	2.487	2.166
2.822	2.130	2.927	2.334	2.336	2.546
2.497	2.421	2.007	2.311	2.171	2.416
2.597	2.301	2.861	2.410	2.677	2.602
2.502	2.443	2.434	2.722	3.173	2.357
2.292	3.683	2.761	2.146	2.725	2.194
2.443	2.977	2.380	2.225	2.792	2.325
2.557	2.517	2.468	2.094	2.517	2.422
2.268	2.487	2.517	2.792	3.112	2.448
2.844	2.190	2.557	2.392	2.831	2.311
2.544	2.326	2.302	2.252	2.683	3.028
2.946	2.783	2.106	2.360	2.846	2.137
2.477	2.819	2.609	2.219	2.305	2.277
2.860	2.380	2.036	2.138	2.468	1.664
2.313	2.742	2.325	1.936	2.779	2.307
2.449	2.274	2.563	2.282	2.597	1.781
2.476	2.776	2.884	2.048	2.526	3.222
2.661	2.644	2.418	2.323	2.766	2.604
2.979	2.459	2.423	2.399	2.897	2.512
2.594	2.946	2.552	2.083	2.546	2.793
3.035	2.970	2.394	1.792	2.798	2.254
2.095	2.709	2.345	2.701	2.807	2.345
2.532	2.409	2.641	2.577	2.621	2.083
2.318	2.904	2.704	2.067	2.853	2.563
2.258	2.410	2.716	1.968	2.669	2.233
2.517	2.439	2.725	2.221	2.268	2.652
2.410	2.160	2.028	2.220	3.070	2.408
	2.687	2.428	1.837	2.642	2.964
	2.434	2.691	2.301	2.808	2.586
	2.623	2.362	2.256	3.199	2.313
	2.819	3.339	2.007	2.508	2.300
	2.570	2.512	1.734	2.609	2.314
	3.152	2.034	1.726	2.241	2.554
	2.952	3.247	2.373	2.999	2.152
	2.639	2.683	2.203	2.691	2.351
	2.828	2.477	2.190	2.469	2.335
	2.290	2.626	2.495	2.483	2.416
	2.125	2.084	2.061	2.590	2.585
	2.989	2.575	2.239	2.422	1.939
		2.067	2.233	2.759	2.327
			2.308		2.242

Individual Egg Mass Statistics

	83	95	96	97	96	97
N	83	95	96	97	96	97
Mean	2.556	2.521	2.491	2.362	2.604	2.377
Var. (S ²)	0.069	0.133	0.076	0.081	0.060	0.074
SEM	0.029	0.037	0.028	0.029	0.025	0.028

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.485					
Var. (S ²)	0.009					
SEM	0.040					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	4.080	2.773	2.468	2.693	1.961	2.014
DATE	5.044	3.333	2.718	2.826	2.340	3.021
06/19/00	5.482	3.802	2.563	2.466	2.335	2.081
	4.187	1.913	2.237	3.117	3.283	2.088
STUDY DAY	4.171	2.012	2.121	2.807	2.282	2.798
72	6.049	3.436	2.240	2.547	2.472	2.277
	4.778	2.377	2.867	2.574	3.258	2.519
STAGE	5.167	2.894	1.572	2.445	2.788	1.344
36	4.114	2.637	2.785	2.733	2.269	2.902
	4.955	2.707	3.164	2.916	2.067	2.493
	5.158	2.807	3.102	2.813	2.871	1.819
	4.574	2.098	2.936	2.848	1.962	2.762
	4.660	2.587	2.936	3.197	1.774	2.055
	4.408	2.943	3.007	3.616	3.207	2.750
	4.258	2.315	2.985	2.904	2.775	3.025
	3.902	2.800	3.192	2.596	3.500	2.481
	3.722	2.899	2.767	2.637	2.459	2.681
	4.667	2.619	2.296	2.446	3.067	3.300
	4.256	2.565	2.716	2.029	1.971	2.373
	4.709	2.298	2.711	2.335	2.983	2.240
	4.037	2.073	2.107	1.775	2.418	2.343
	3.924	2.520	3.146	3.178	2.882	2.561
	3.488	2.857	3.383	2.220	2.199	2.804
	4.079	2.794	2.203	2.820	3.569	2.169
	3.369	2.204	2.203	3.081	3.713	3.207
	4.508	3.214	2.728	3.314	2.041	2.839
	2.344	2.240	3.533	2.565	3.321	3.655
	4.880	2.357	3.130	3.266	3.076	2.800
	4.416	2.661	2.659	2.609	2.766	2.083
	3.722	1.900	2.894	2.827	2.867	2.382
	4.570	2.117	3.222	2.608	2.621	3.041
	3.338	2.264	2.263	3.200	3.089	1.987
	4.502	2.555	2.455	2.891	3.184	2.531
	4.417	1.804	3.081	2.461	2.431	2.785
	3.471	3.585	2.759	3.041	3.043	2.345
	3.236	2.949	3.108	2.382	2.514	3.397
	2.878	2.277	2.445	2.321	2.668	2.206
	4.615	2.427	2.605	2.936	3.289	1.851
	2.971	3.034	3.585	2.735	2.967	2.267
	2.713	2.669	2.697	3.168	2.405	2.800
	3.516	3.707	2.934	2.853	2.104	2.743
	3.870	2.935	2.973	3.624	2.724	2.384
	4.482	3.308	3.523	2.467	2.504	2.514
	3.923	3.904	2.603	3.360	2.626	2.532
	3.344	2.034	3.234	3.333	2.301	3.025
	2.670	3.262	2.707	3.355	2.849	2.949
	2.738	3.291	2.738	3.071	3.223	2.353
	3.222	3.189	3.016	2.982	2.877	2.237
	2.285	2.480	2.282	2.069	3.023	2.936
	2.868	3.565	2.639	2.074	2.707	2.766

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
3.668	3.635	2.369	3.215	2.077	3.380
2.908	2.269	2.630	2.567	3.485	2.741
2.541	2.136	3.941	3.384	2.836	3.293
2.407	2.468	2.766	3.470	2.028	2.514
3.184	3.403	3.064	2.407	2.949	3.509
2.830	3.168	3.268	2.998	3.095	3.674
2.903	3.371	3.026	3.432	3.189	2.572
3.406	2.800	2.903	2.511	2.220	2.844
2.920	3.710	3.190	2.952	3.102	2.934
3.167	3.061	2.941	2.396	2.818	2.369
2.940	3.111	2.733	2.990	3.976	2.287
3.041	3.518	2.813	3.015	2.776	2.794
2.582	2.527	2.552	2.573	2.746	1.551
3.436	2.843	3.262	3.134	2.537	1.676
	3.219	3.269	2.857	3.015	2.593
	3.190	2.773	1.640	1.674	3.401
	3.325	2.242	2.860	1.794	3.476
	3.350	2.286	3.267	2.147	2.669
	2.807	3.001	2.556	3.048	3.571
	3.204	2.579	3.167	2.593	1.744
	2.669	2.908	2.729	1.838	2.102
	2.145	3.404	2.967	3.097	3.313
	3.506	2.899	3.151	2.664	
	2.922	2.735	3.339	2.927	
	2.813	2.743	3.304	2.890	
	2.716	2.453	2.561	2.647	
	2.461	2.195	2.816	2.614	
	2.370	2.530	2.684	3.099	
		2.672	2.468	3.012	
		2.729	2.606		
		2.476	2.301		
		2.151	3.181		
		2.247	2.535		
		2.402	2.910		
		2.464	3.197		
		3.113	3.206		
		2.518	1.740		
		2.448	2.833		
			3.344		
			2.341		
			2.933		
			2.713		
			2.574		
			2.707		
			2.172		

Individual Egg Mass Statistics

	N	64	78	88	95	79	72
Mean		3.792	2.804	2.761	2.798	2.715	2.618
Var. (S ²)		0.748	0.264	0.161	0.171	0.235	0.268
SEM		0.108	0.058	0.043	0.042	0.055	0.061

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.915					
Var. (S ²)	0.189					
SEM	0.178					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	3.133	4.452	4.358	2.348	3.321	3.838
DATE	4.134	3.928	2.199	3.325	2.747	3.516
07/27/00	4.209	3.308	3.537	2.470	2.247	2.479
	3.792	3.394	3.226	3.505	3.404	3.701
STUDY DAY		3.142	3.443	2.729	3.474	3.377
110		3.755	2.693	3.676	3.314	3.062
		3.891	3.983	3.010	3.258	
STAGE		2.994	3.896	2.740	3.177	
38		3.477	3.078	2.950	3.682	
		2.524	1.667	2.199	3.871	
		3.602	3.881	2.986	2.561	
		2.851	3.995	3.309	2.500	
		2.736	3.319	2.681	3.388	
		2.697	3.580	3.334	5.225	
		3.436	3.244	2.097	2.989	
		3.502	3.481	2.659	3.341	
		3.264	2.357	3.357	3.375	
		3.898	3.071	2.981	3.803	
		2.471	3.145	3.638	2.327	
		3.489	3.402	3.198		
		3.369	4.015	2.281		
		2.521	3.500	3.509		
		2.578	3.795	1.665		
		3.022	2.678	2.323		
		4.053	2.845	3.485		
		3.200	3.184	3.301		
		3.615	2.889	2.886		
		3.618	2.866	3.672		
		3.549	2.738	3.554		
		4.054	1.841	3.326		
			2.850	3.258		
			3.726	3.372		
			3.233	3.232		
			2.255	3.625		
			3.693	3.125		
				3.159		
				3.325		
				3.032		
				3.615		
				1.739		
				2.483		
				2.123		
				3.630		
				3.650		
				2.999		
				2.575		
				3.398		
				3.195		
				3.108		
				3.146		

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
			3.633		
			3.102		
			2.197		
			3.262		
			2.836		

Individual Egg Mass Statistics

N	4	30	35	55	19	6
Mean	3.817	3.346	3.190	3.018	3.263	3.329
Var. (S ²)	0.241	0.266	0.402	0.269	0.451	0.246
SEM	0.245	0.094	0.107	0.070	0.154	0.202

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	3.327					
Var. (S ²)	0.072					
SEM	0.109					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	5.262	3.923	3.380	2.663		
08/28/00		3.820	3.786	3.660		
		4.087	4.003	2.974		
		3.915		3.144		
STUDY DAY		3.886		3.527		
142		3.801		2.823		
		3.429		2.859		
STAGE		3.591		3.102		
41		3.963		1.581		
		3.486		2.623		
		4.069		3.093		
				4.530		
				3.105		
				3.379		
				3.344		
				3.666		
				3.087		
				2.556		

Individual Egg Mass Statistics

N	1	11	3	18	0	0
Mean	5.262	3.815	3.723	3.095	na	na
Var. (S ²)	na	0.050	0.100	0.363	na	na
SEM	na	0.067	0.182	0.142	na	na

Combined Egg Mass Statistics

Total N	4
Site Mean	3.974
Var. (S ²)	0.840
SEM	0.458

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE				3.378		
09/28/00				4.252		
				3.598		
				4.809		
STUDY DAY						
173						
STAGE						
40						

Individual Egg Mass Statistics

N	0	0	0	4	0	0
Mean	na	na	na	4.009	na	na
Var. (S ²)	na	na	na	0.422	na	na
SEM	na	na	na	0.325	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	4.009
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE				3.092		
10/09/00						
STUDY DAY						
184						
STAGE						
40						

Individual Egg Mass Statistics

N	0	0	0	1	0	0
Mean	na	na	na	3.092	na	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	3.092
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0	21	0.765	0.761	0.788	0.785	0.785	0.739
6		1.406	1.524	1.624	1.512	1.654	1.552
11		1.564	1.679	1.805	1.650	1.721	1.740
18		1.782	1.771	1.983	1.748	1.807	1.823
21		1.888	1.797	2.004	1.838	1.810	1.860
26		1.891	1.837	2.039	1.861	1.843	1.877
32		2.149	2.056	2.190	2.156	1.917	1.895
36		2.224	2.201	2.351	2.191	2.078	2.101
41		2.517	2.412	2.428	2.301	2.507	2.316
46	35	2.893	2.612	2.670	2.675	2.940	2.361
57	38	3.495	3.630	3.358	3.366	3.683	3.014
105	41	4.109	3.617	2.838	3.289	na	3.681
126	27	na	na	2.892	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0	0.007	0.009	0.007	0.006	0.008	0.007
6	0.015	0.018	0.016	0.017	0.015	0.017
11	0.018	0.019	0.019	0.016	0.021	0.017
18	0.023	0.019	0.023	0.021	0.025	0.020
21	0.029	0.019	0.022	0.026	0.016	0.022
26	0.035	0.021	0.023	0.032	0.029	0.021
32	0.036	0.029	0.024	0.034	0.036	0.022
36	0.040	0.033	0.029	0.037	0.044	0.024
41	0.050	0.035	0.028	0.034	0.070	0.030
46	0.054	0.047	0.034	0.042	0.090	0.034
57	0.057	0.074	0.053	0.065	0.087	0.054
105	na	0.916	0.335	na	na	0.344
126	na	na	0.590	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE	0.796	0.739	0.982	0.844	0.887	0.501
04/06/00	0.584	0.837	0.762	0.784	0.861	0.612
	0.795	0.841	0.868	0.750	0.839	0.738
	0.694	0.810	0.871	0.755	0.778	0.630
STUDY DAY	0.813	0.739	0.655	0.852	0.784	0.586
0	0.813	0.813	0.752	0.696	0.878	0.715
	0.817	0.810	0.791	0.835	0.850	0.761
STAGE	0.796	0.856	0.669	0.878	0.828	0.826
	0.750	0.795	0.844	0.755	0.784	0.672
	0.752	0.617	0.775	0.708	0.962	0.761
	0.609	0.739	0.841	0.796	0.617	0.758
	0.712	0.706	0.833	0.745	0.790	0.739
	0.755	0.801	0.701	0.810	0.801	0.706
	0.741	0.782	0.750	0.782	0.853	0.722
	0.776	0.860	0.611	0.784	0.877	0.646
	0.775	0.555	0.762	0.798	0.810	0.837
	0.890	0.901	0.790	0.845	0.799	0.748
	0.708	0.863	0.721	0.748	0.752	0.696
	0.696	0.667	0.863	0.762	0.836	0.786
	0.669	0.626	0.700	0.833	0.798	0.777
	0.765	0.770	0.847	0.850	0.807	0.729
	0.779	0.782	0.817	0.807	0.694	0.661
	0.763	0.872	0.754	0.699	0.917	0.748
	0.770	0.722	0.810	0.853	0.775	0.818
	0.724	0.836	0.932	0.836	0.825	0.777
	0.784	0.863	0.817	0.750	0.863	0.828
	0.772	0.639	0.792	0.761	0.790	0.801
	0.807	0.654	0.795	0.782	0.899	0.810
	0.810	0.695	0.778	0.785	0.717	0.736
	0.748	0.639	0.737	0.790	0.970	0.727
	0.553	0.722	0.754	0.825	0.824	0.708
	0.633	0.792	0.778	0.748	0.837	0.711
	0.641	0.688	0.661	0.835	0.856	0.646
	0.914	0.923	0.783	0.750	0.810	0.714
	0.799	0.833	0.742	0.703	0.867	0.861
	0.694	0.727	0.735	0.835	0.672	0.683
	0.694	0.794	0.668	0.810	0.686	0.889
	0.757	0.783	0.786	0.617	0.906	0.658
	0.774	0.649	0.848	0.790	0.852	0.724
	0.694	0.644	0.782	0.865	0.839	0.813
	0.862	0.826	0.724	0.872	0.861	0.790
	0.890	0.672	0.865	0.893	0.850	0.752
	0.833	0.897	0.694	0.634	0.846	0.758
	0.754	0.733	0.810	0.802	0.874	0.774
	0.750	0.708	0.667	0.833	0.861	0.748
	0.874	0.695	0.761	0.722	0.813	0.752
	0.768	0.503	0.806	0.750	0.798	0.676
	0.896	0.810	0.856	0.806	0.782	0.843
	0.786	0.837	0.853	0.807	0.817	0.736
	0.782	0.786	0.750	0.823	0.786	0.721

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0.699	0.775	0.820	0.868	0.778	0.761
0.772	0.695	0.722	0.827	0.861	0.656
0.795	0.840	0.789	0.833	0.609	0.811
0.752	0.950	0.755	0.746	0.789	0.562
0.810	0.762	0.861	0.807	0.531	0.795
0.810	0.694	0.810	0.833	0.841	0.790
0.822	1.005	0.889	0.780	0.769	0.699
0.722	0.712	0.919	0.731	0.819	0.817
0.617	0.845	0.785	0.845	0.703	0.748
0.672	0.833	0.770	0.775	0.720	0.729
0.755	0.727	0.833	0.813	0.648	0.708
0.669	0.877	0.729	0.720	0.727	0.651
0.826	0.733	0.748	0.820	0.711	0.778
0.738	0.775	0.913	0.613	0.778	0.654
0.654	0.823	0.672	0.730	0.654	0.826
0.890	0.761	0.701	0.749	0.796	0.730
0.772	0.890	0.825	0.796	0.730	0.794
0.810	0.748	0.736	0.850	0.727	0.836
0.807	0.722	0.871	0.817	0.801	0.699
0.796	0.835	0.863	0.865	0.785	0.802
0.810	0.775	0.724	0.778	0.722	0.676
0.820	0.828	0.733	0.785	0.764	0.752
0.917	0.727	0.729	0.727	0.722	0.714
0.863	0.811	0.708	0.782	0.750	0.807
0.844	0.755	0.775	0.766	0.727	0.755
0.630	0.778	0.762	0.801	0.886	0.789
0.766	0.750	0.794	0.727	0.811	0.669
0.784	0.785	0.758	0.813	0.786	0.837
0.773	0.761	0.750	0.758	0.712	0.686
0.820	0.755	0.750	0.835	0.792	0.702
0.800	0.794	0.861	0.813	0.711	0.773
0.683	0.828	0.829	0.835	0.696	0.735
0.778	0.782	0.795	0.782	0.772	0.666
0.762	0.807	0.766	0.775	0.772	0.672
0.768	0.654	0.901	0.795	0.834	0.696
0.882	0.754	0.752	0.810	0.669	0.676
0.687	0.614	0.774	0.696	0.727	0.724
0.672	0.578	0.835	0.787	0.735	0.622
0.814	0.833	0.766	0.699	0.862	0.801
0.893	0.928	0.837	0.849	0.733	0.687
0.841	0.774	0.837	0.780	0.639	0.745
0.777	0.668	0.801	0.729	0.809	0.833
0.799	0.634	0.805	0.818	0.785	0.807
0.722	0.739	0.833	0.817	0.562	0.844
0.686	0.768	0.676	0.633	0.817	0.733
0.805	0.614	0.748	0.801	0.813	0.748
0.795	0.773	0.843	0.779	0.837	0.807
0.641	0.678	0.833	0.730	0.724	0.846
0.733	0.583	0.862	0.806	0.768	0.754
0.772	0.683	0.959	0.752	0.729	0.722

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
Individual Egg Mass Statistics						
N	100	100	100	100	100	100
Mean	0.765	0.761	0.788	0.785	0.785	0.739
Var. (S ²)	0.005	0.008	0.005	0.003	0.006	0.005
SEM	0.007	0.009	0.007	0.006	0.008	0.007
Combined Egg Mass Statistics						
Total N	6					
Site Mean	0.770					
Var. (S ²)	0.000					
SEM	0.008					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE	1.323	1.720	1.635	1.474	1.632	1.401
	1.286	1.408	1.319	1.484	1.676	1.469
04/12/00	1.349	1.872	1.446	1.330	1.706	1.525
	1.148	1.608	1.877	1.519	1.871	1.486
STUDY DAY	1.227	1.512	1.689	1.401	1.811	1.372
	6	1.332	1.311	1.620	1.351	1.591
STAGE	1.266	1.276	1.906	1.529	1.679	1.500
	1.435	1.327	1.651	1.719	1.746	1.691
	1.358	1.329	1.654	1.608	1.887	1.301
	1.512	1.507	1.518	1.800	1.731	1.590
	1.311	1.585	1.487	1.637	1.378	1.572
	1.420	1.474	1.634	1.987	2.065	1.454
	1.560	1.371	1.598	1.449	1.940	1.609
	1.299	1.907	1.501	1.434	1.800	1.722
	1.345	1.401	1.618	1.540	1.681	1.688
	1.483	1.446	1.627	1.431	1.779	1.524
	1.237	1.401	1.553	1.481	1.607	1.565
	1.225	1.591	1.992	1.240	1.753	1.402
	1.406	1.329	1.270	1.408	1.485	1.620
	1.449	1.425	1.699	1.277	1.523	1.400
	1.205	1.410	1.504	1.624	1.372	1.674
	1.670	1.546	1.531	1.361	1.763	1.538
	1.182	1.514	1.442	1.629	1.610	1.082
	1.804	1.620	1.739	1.693	1.640	1.324
	1.299	1.625	1.576	1.373	1.713	1.284
	1.323	1.543	1.655	1.299	1.442	1.617
	1.269	1.333	1.644	1.257	1.518	1.725
	1.185	1.418	2.115	1.453	1.535	1.532
	1.525	1.546	1.983	1.351	1.532	1.436
	1.301	1.508	1.814	1.657	1.807	1.533
	1.479	1.531	1.946	1.829	1.597	1.756
	1.357	1.274	1.766	1.595	1.773	1.388
	1.338	1.629	1.677	1.461	1.314	1.793
	1.351	1.580	1.545	1.241	1.428	1.772
	1.319	1.287	1.696	1.512	1.660	1.664
	1.601	1.859	1.717	1.657	1.512	1.634
	1.456	1.376	1.372	1.548	1.781	1.406
	1.484	1.803	1.561	1.481	1.554	1.631
	1.153	1.596	1.543	1.488	1.523	1.744
	1.180	1.313	1.591	1.420	1.665	1.817
	1.664	1.022	1.696	1.177	1.496	1.491
	1.551	1.408	1.786	1.403	1.279	1.436
	1.785	1.710	1.681	1.474	1.529	1.832
	1.538	1.280	1.572	1.451	1.447	1.709
	1.761	1.875	1.792	1.455	1.662	1.515
	1.534	1.965	1.411	1.435	1.797	1.485
	1.608	1.793	1.611	1.575	1.501	1.553
	1.514	1.422	1.469	1.484	1.603	1.400
	1.857	1.504	1.691	1.534	1.711	1.748
	1.528	1.770	1.593	1.840	1.724	1.662

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.376	1.358	1.628	1.506	1.709	1.433
1.286	1.558	1.519	1.677	1.753	1.796
1.315	1.500	1.537	1.818	1.728	1.566
1.343	1.648	1.555	1.857	1.649	1.751
1.325	1.598	1.603	1.714	1.634	1.741
1.343	1.722	1.689	1.599	1.640	1.606
1.172	1.734	1.665	1.257	1.822	1.311
1.503	1.249	1.784	1.620	1.492	1.572
1.449	1.531	1.538	1.407	1.651	1.750
1.362	1.464	1.748	1.663	1.552	1.499
1.343	1.420	1.644	1.617	1.705	1.372
1.307	1.647	1.447	1.395	1.671	1.541
1.317	1.445	1.429	1.413	1.817	1.840
1.193	1.188	1.447	1.842	1.580	1.793
1.302	1.573	1.571	1.111	1.853	1.400
1.409	1.250	1.330	1.555	1.677	1.074
1.382	1.424	1.813	1.562	1.780	1.305
1.477	1.549	1.893	1.420	1.529	1.410
1.241	1.445	1.529	1.356	1.485	1.480
1.477	1.503	1.373	1.720	1.642	1.584
1.539	1.546	1.763	1.768	1.867	1.433
1.563	1.741	1.506	1.502	1.609	1.610
1.716	1.636	1.587	1.850	1.606	1.646
1.357	1.887	1.293	1.424	1.546	1.775
1.571	1.514	1.543	1.605	1.577	1.385
1.467	1.512	1.628	1.353	1.724	1.697
1.442	1.329	1.565	1.527	1.655	1.383
1.568	1.575	1.411	1.508	1.554	1.495
1.485	1.394	1.399	1.475	1.470	1.400
1.439	1.474	1.637	1.588	1.909	1.686
1.130	1.499	1.573	1.729	1.457	1.587
1.319	1.274	1.712	1.555	1.830	1.587
1.325	1.656	1.734	1.611	1.971	1.365
1.297	1.611	1.835	1.508	1.743	1.541
1.429	1.469	1.729	1.495	1.529	1.171
1.329	1.600	1.879	1.437	1.584	1.808
1.604	1.458	1.356	1.311	1.739	1.482
1.311	1.497	1.583	1.527	1.867	1.403
1.395	1.218	1.428	1.456	1.644	1.820
1.266	1.644	1.659	1.460	1.729	1.408
1.308	1.393	1.895	1.474	1.663	1.664
1.380	1.688	1.937	1.533	1.691	1.772
1.458	1.750	1.465	1.639	1.665	1.562
1.354	1.699	1.680	1.466	1.657	1.295
1.293	1.601	1.665	1.438	1.442	1.695
1.447	1.723	1.523	1.112	1.555	1.782
1.586	1.815	1.626	1.627	1.935	1.268
1.436	1.491	1.617	1.371	1.757	1.514
1.695		1.583	1.318	1.541	1.854
		1.862	1.514	1.720	1.672

Individual Egg Mass Statistics

N	99	98	100	100	100	100
Mean	1.406	1.524	1.624	1.512	1.654	1.552
Var. (S ²)	0.024	0.032	0.027	0.027	0.022	0.030
SEM	0.015	0.018	0.016	0.017	0.015	0.017

Combined Egg Mass Statistics

Total N	6
Site Mean	1.545
Var. (S ²)	0.008
SEM	0.036

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.469	1.747	1.612	1.633	1.707	2.012
DATE	1.331	1.522	1.824	1.549	2.005	1.597
04/17/00	1.513	1.287	1.652	1.730	1.908	1.506
	1.449	2.004	1.647	1.921	2.147	1.623
STUDY DAY	1.344	1.772	1.575	1.769	1.716	1.463
11	1.429	1.722	1.647	1.761	1.969	1.543
	1.508	1.575	1.961	1.777	1.682	1.611
STAGE	1.673	1.517	1.722	1.721	1.327	1.702
21	1.497	1.719	1.548	1.799	1.442	1.578
	1.433	1.595	1.598	1.566	1.841	1.522
	1.101	1.983	1.999	1.281	1.759	1.748
	1.567	1.502	1.622	1.680	1.754	1.677
	1.395	1.786	1.929	1.673	1.546	1.627
	1.441	1.719	1.625	1.319	1.627	1.731
	1.516	1.737	1.840	1.517	1.837	1.767
	1.370	1.661	1.641	1.584	2.111	1.977
	1.060	1.468	1.758	1.586	1.790	1.784
	1.284	1.507	1.475	1.899	1.548	1.562
	1.150	1.627	2.055	1.307	1.643	2.051
	1.420	1.650	1.794	1.497	1.586	1.709
	1.301	1.864	1.546	1.582	1.785	1.655
	1.677	1.254	1.613	1.689	1.747	1.521
	1.729	1.591	1.907	1.633	1.790	1.896
	1.784	1.684	2.059	1.900	2.014	1.835
	1.700	1.661	1.686	1.648	1.987	1.754
	1.538	1.600	1.800	1.551	1.706	1.747
	1.523	1.650	1.923	1.680	1.702	2.048
	1.431	1.391	1.616	1.780	1.720	1.910
	1.592	1.344	1.981	1.789	1.689	1.627
	1.769	1.732	2.101	1.298	1.508	2.046
	1.720	1.819	1.630	1.565	1.137	1.748
	1.866	1.751	1.778	1.331	1.641	1.708
	1.950	1.379	1.811	1.458	1.713	1.805
	1.600	1.498	1.658	1.511	0.840	1.676
	1.559	1.619	1.718	1.608	1.679	1.810
	1.636	1.566	1.743	1.511	1.630	2.061
	1.648	1.632	1.487	1.471	1.522	1.514
	1.623	1.473	1.882	1.487	1.752	1.808
	1.493	1.689	2.201	1.633	1.550	2.039
	1.665	1.798	1.953	1.724	1.648	1.849
	1.641	2.104	2.122	1.586	1.406	1.849
	1.568	1.617	2.096	1.708	1.531	1.704
	1.627	1.829	1.948	1.718	1.578	1.520
	1.616	1.681	2.011	1.851	1.821	1.504
	1.568	1.574	2.380	1.509	1.649	1.634
	1.764	1.717	1.720	1.576	1.734	1.729
	1.454	1.885	1.672	1.628	1.649	1.845
	1.630	1.655	1.568	1.899	1.689	1.427
	1.897	1.533	1.693	1.870	1.995	1.765
	1.751	1.880	1.833	1.481	1.871	1.809

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.514	1.824	1.759	1.703	1.677	1.754
1.576	1.724	1.974	1.762	1.969	1.712
1.654	1.869	1.899	1.704	1.534	1.623
1.134	1.873	1.962	1.600	1.476	1.655
1.566	1.913	1.863	1.731	1.613	1.600
1.640	1.810	2.173	1.709	1.489	2.033
1.690	1.950	2.095	1.783	1.880	2.126
1.459	1.633	1.878	1.763	1.748	1.593
1.710	1.646	1.951	1.709	1.896	1.567
1.797	1.907	2.130	1.650	1.813	1.613
1.870	2.088	2.000	1.681	1.874	1.712
1.533	1.502	1.678	1.569	1.803	1.890
1.439	1.490	1.769	1.610	1.714	1.740
1.516	1.623	1.811	1.782	1.969	2.114
2.004	1.512	1.624	1.523	1.859	1.901
1.891	1.345	1.799	1.636	2.147	1.735
1.670	1.442	1.945	1.575	1.633	1.790
1.816	1.419	1.722	1.431	1.741	1.826
1.495	1.621	2.100	1.516	1.778	1.485
1.432	1.854	1.907	1.596	2.138	1.617
1.670	1.514	1.807	1.752	1.819	1.950
1.466	1.441	1.979	1.851	1.797	1.668
1.646	1.844	1.731	1.989	1.622	1.762
1.365	1.974	1.891	1.598	1.640	1.857
1.511	1.646	2.082	1.491	1.708	1.951
1.513	1.757	1.511	1.769	1.760	1.702
1.541	1.590	1.794	1.982	1.731	1.659
1.607	1.745	1.676	1.917	1.667	1.592
1.714	1.493	1.495	1.744	1.817	1.529
1.322	1.659	2.065	1.603	1.847	1.676
1.216	1.845	1.691	1.430	1.650	1.490
1.727	1.654	1.658	1.331	1.935	1.411
1.554	1.579	1.489	1.511	2.073	1.797
1.522	1.554	1.636	1.846	1.800	1.890
1.533	1.525	1.603	1.849	1.603	1.835
1.385	2.012	1.918	1.582	1.574	1.810
1.786	1.791	1.869	1.549	1.627	1.699
1.641	2.014	2.211	1.514	1.454	1.622
1.781	1.541	1.696	1.921	1.683	1.625
1.667	1.707	1.964	1.699	2.033	1.512
1.508	1.748	1.737	1.987	1.936	1.828
1.733	1.190	1.623	1.459	1.774	1.850
1.560	1.684	1.613	1.486	1.596	1.732
1.598	1.720	1.803	1.667	1.437	1.710
1.480	1.826	1.460	1.641	1.270	1.678
1.462	1.677	1.710	1.895	1.738	1.726
1.463	2.131	1.774	1.748	1.762	2.022
1.676	2.069	1.794	1.582	1.912	1.969
		1.778	1.659	1.764	1.978
		1.772			1.735

Individual Egg Mass Statistics

N	98	98	100	99	99	100
Mean	1.564	1.679	1.805	1.650	1.721	1.740
Var. (S ²)	0.032	0.037	0.037	0.026	0.043	0.028
SEM	0.018	0.019	0.019	0.016	0.021	0.017

Combined Egg Mass Statistics

Total N	6
Site Mean	1.693
Var. (S ²)	0.007
SEM	0.034

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE 04/24/00	1.430	2.096	1.958	1.807	1.694	1.698
	1.285	1.824	2.175	1.765	1.544	1.663
	1.720	1.474	2.386	1.834	1.459	1.606
STUDY DAY 18	1.683	1.570	1.764	1.815	1.663	1.627
	1.628	1.761	2.174	1.698	1.736	1.603
	1.673	1.735	2.160	1.631	2.040	1.709
STAGE	1.639	1.761	2.003	1.523	1.590	1.547
	1.539	1.958	1.910	1.758	1.722	1.600
	1.274	2.067	1.906	1.866	1.634	1.649
	1.696	2.001	1.884	1.616	1.669	1.907
	1.443	2.071	2.322	2.075	1.773	1.564
	2.069	1.875	2.060	1.759	1.959	1.806
	1.834	2.130	1.610	1.677	1.698	1.889
	1.624	2.021	1.844	2.033	1.977	1.773
	1.850	1.861	2.269	1.791	1.887	1.861
	1.752	2.296	1.670	1.871	1.587	2.075
	1.976	1.973	1.880	1.908	1.705	1.541
	1.784	2.201	2.168	2.181	1.807	1.748
	1.527	2.076	1.714	2.056	1.610	2.022
	1.875	2.207	1.669	1.869	1.474	1.650
	1.633	1.764	1.649	2.010	1.872	1.863
	1.923	1.887	1.832	2.000	2.035	1.630
	2.082	1.668	2.459	1.369	2.158	1.701
	1.872	1.788	1.812	1.415	1.777	1.838
	1.916	1.748	1.807	2.186	2.258	1.931
	1.614	1.722	2.067	1.766	1.909	2.117
	1.714	1.820	2.088	1.958	2.226	1.952
	1.618	1.883	1.829	1.785	1.832	1.546
	1.733	1.848	1.724	1.727	1.918	1.791
	1.728	1.587	2.173	1.576	1.782	2.174
	1.564	1.529	2.117	2.040	1.761	1.786
	1.733	1.474	1.575	1.955	1.567	1.804
	1.492	1.777	1.578	1.843	1.740	2.341
	2.167	1.701	2.203	1.789	1.422	1.670
	2.009	1.492	1.982	2.119	1.619	1.747
	1.991	1.706	2.071	2.211	1.387	1.886
	1.945	1.740	2.117	2.072	1.698	2.100
	2.185	1.860	2.283	1.836	1.624	1.904
	1.779	1.695	2.412	1.975	1.638	1.794
	2.092	1.873	2.201	1.301	1.624	1.785
	1.943	1.883	1.687	1.913	1.334	2.202
	1.880	1.720	2.058	1.736	1.818	1.610
	1.877	1.978	1.939	1.992	1.585	1.915
	2.085	1.777	2.219	1.861	1.686	2.001
	1.680	1.886	2.251	1.905	1.788	1.915
	1.968	1.697	2.358	1.376	1.967	2.143
	2.162	1.739	1.938	1.480	2.777	1.600
	1.950	1.636	1.969	1.567	2.330	1.759
	1.791	1.718	1.658	1.852	2.001	2.017
	1.827	1.658	2.021	1.786	2.060	2.058

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.762	1.943	2.049	1.716	1.552	2.121
1.958	1.830	1.764	1.983	1.610	1.824
1.963	1.574	1.788	1.829	1.360	1.592
1.809	1.429	2.162	1.724	1.907	1.764
1.996	1.754	2.006	1.926	1.773	1.608
2.064	1.769	1.837	1.745	1.849	1.707
2.099	1.625	1.758	1.818	1.822	1.707
1.824	1.696	2.258	2.076	1.658	1.720
1.507	1.598	2.256	1.704	1.590	1.699
1.799	1.984	1.809	1.710	1.646	1.551
1.639	1.542	1.928	1.775	1.917	2.048
1.892	1.746	1.436	1.606	1.838	1.930
1.724	1.619	1.889	1.927	1.693	1.968
1.749	1.902	1.852	1.818	1.436	1.824
2.109	1.850	1.970	1.676	1.545	1.991
1.581	1.819	1.917	1.916	1.766	2.039
1.984	1.706	1.985	1.757	1.670	1.796
1.757	1.849	1.873	1.816	2.143	2.192
1.733	1.555	1.939	1.804	1.757	1.897
1.973	1.638	1.959	1.706	2.074	1.799
1.824	1.525	1.688	1.859	1.947	1.857
1.866	1.587	1.624	1.836	2.076	1.821
1.909	1.958	2.324	1.740	2.154	1.833
1.693	1.709	1.950	2.067	2.194	1.517
1.851	2.041	2.255	1.653	2.363	2.192
1.631	1.778	1.824	1.624	2.063	1.881
1.530	1.766	1.909	1.636	2.471	2.028
1.739	1.707	1.910	1.779	1.966	1.425
1.395	1.863	1.783	1.426	1.884	1.586
1.556	1.606	2.319	1.594	2.078	1.545
1.575	1.698	2.170	1.394	1.793	1.575
1.854	1.501	1.715	1.420	1.686	1.584
1.917	1.778	2.190	1.588	1.688	1.499
1.395	1.771	1.738	1.299	1.852	1.565
1.511	1.631	1.901	1.487	1.741	1.823
1.731	1.564	1.933	1.563	1.898	1.928
1.642	1.691	1.847	1.433	2.001	2.109
1.631	1.813	2.351	1.492	1.830	2.097
2.014	1.897	2.201	1.436	1.758	1.522
2.455	2.285	2.287	1.462	1.843	1.637
1.857	1.504	2.344	1.466	1.789	1.582
1.433	1.636	1.993	1.761	1.589	1.835
1.395	1.831	1.764	1.602	1.534	2.091
1.898	1.485	2.007	1.525	1.606	1.992
	1.504	1.694	1.525	1.925	2.244
	1.529	1.918	1.668	1.705	1.831
	1.504	2.205	1.559		1.849
		2.244	1.430		1.986
		2.463			1.991
		1.693			1.938

Individual Egg Mass Statistics

N	94	97	100	98	96	100
Mean	1.782	1.771	1.983	1.748	1.807	1.823
Var. (S ²)	0.048	0.036	0.054	0.045	0.061	0.041
SEM	0.023	0.019	0.023	0.021	0.025	0.020

Combined Egg Mass Statistics

Total N	6
Site Mean	1.819
Var. (S ²)	0.007
SEM	0.035

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.895	1.901	2.005	1.858	1.714	2.353
DATE	1.683	1.790	2.126	1.779	1.868	1.629
04/27/00	2.271	1.926	2.126	1.911	1.654	1.797
	2.052	1.713	2.160	1.832	1.827	1.747
STUDY DAY	1.889	1.652	1.898	1.883	1.647	2.017
21	2.083	1.703	1.767	1.972	1.915	1.729
	2.024	1.965	2.009	1.805	2.015	1.783
STAGE	2.111	1.894	1.863	2.279	1.711	1.572
	2.300	2.033	1.653	2.541	1.792	1.611
	2.163	1.815	1.658	2.431	1.740	1.282
	1.620	1.891	2.063	2.115	1.792	1.732
	2.034	1.706	1.867	1.880	1.820	1.638
	1.528	1.510	2.083	1.896	1.974	1.886
	1.567	1.621	2.062	1.420	1.723	1.610
	1.770	1.622	1.836	1.858	1.800	2.058
	1.723	1.919	1.854	1.822	1.984	1.449
	1.750	1.938	1.945	2.366	1.823	1.963
	1.877	1.924	2.005	1.608	1.853	2.112
	1.660	2.272	1.522	1.449	1.967	2.253
	1.630	1.827	1.951	1.623	2.041	1.845
	1.615	1.879	1.809	2.156	1.889	1.898
	1.986	1.729	2.213	2.093	1.974	1.714
	2.016	1.906	1.683	2.044	2.040	1.773
	1.889	1.819	2.128	1.451	2.065	2.044
	1.737	1.882	2.019	1.658	1.872	2.172
	2.065	1.516	2.211	1.864	1.973	2.026
	2.230	1.660	2.166	1.985	1.856	2.006
	2.240	1.790	1.691	2.029	1.706	2.173
	2.013	1.684	1.874	1.663	1.931	2.167
	2.200	1.813	2.042	1.793	1.566	1.863
	2.331	1.526	2.049	2.028	1.626	1.955
	2.212	1.667	1.859	1.868	1.578	2.156
	2.022	1.919	1.767	1.885	1.651	1.898
	2.360	1.601	1.870	1.749	1.568	2.018
	1.960	1.829	2.000	1.543	1.551	1.994
	1.951	1.604	2.008	1.899	1.811	1.839
	1.916	1.807	1.775	1.877	1.569	1.663
	2.203	1.776	2.152	1.316	1.613	1.799
	2.085	1.865	2.125	1.912	2.093	2.406
	1.357	1.863	1.505	2.144	1.932	2.350
	1.866	1.749	2.042	1.955	1.803	1.711
	1.903	2.049	1.954	2.211	1.985	1.799
	2.448	1.650	2.050	1.483	1.951	1.589
	2.483	1.559	1.946	1.896	2.006	1.609
	2.157	1.523	1.911	1.962	1.875	2.067
	2.026	2.040	2.105	2.009	1.853	2.259
	2.002	1.755	1.902	1.918	1.981	1.717
	2.117	1.752	1.991	1.949	1.918	1.658
	1.732	1.756	2.122	2.051	1.757	1.921
	1.997	1.772	1.657	1.757	2.008	1.865

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.952	2.103	2.488	2.038	1.855	1.745
	1.750	1.751	1.895	1.955	2.048	1.742
	1.718	1.995	2.011	2.174	1.835	1.915
	1.900	1.696	2.260	1.984	1.912	1.679
	2.160	1.814	2.249	1.832	1.999	1.999
	1.664	2.119	1.839	2.026	2.060	2.115
	1.878	1.669	2.345	2.306	1.599	2.075
	1.749	1.643	1.950	1.866	1.677	1.702
	2.402	1.441	1.865	2.082	1.820	1.642
	1.988	1.919	2.065	1.905	1.689	1.823
	2.228	1.588	1.989	2.009	1.865	1.853
	2.046	1.797	1.832	1.620	1.787	1.561
	1.764	1.665	1.455	1.697	1.709	1.800
	1.876	1.788	1.834	1.789	1.962	1.539
	1.553	2.129	1.888	1.675	1.969	1.900
	1.917	1.938	1.748	2.282	1.877	1.820
	1.860	1.825	2.389	1.761	1.911	2.000
	2.123	1.888	2.054	2.103	1.677	1.891
	2.089	1.560	1.991	2.216	1.649	2.032
	2.446	1.898	2.056	1.865	1.915	1.586
	1.940	1.682	2.005	1.620	1.626	2.177
	1.481	1.579	2.053	1.737	1.897	1.772
	1.553	1.952	2.354	1.813	1.614	1.718
	1.640	1.379	2.123	1.783	1.771	1.589
	1.376	1.893	2.028	1.541	1.590	1.671
	1.883	2.381	2.076	1.463	1.756	1.697
	1.891	1.887	2.395	1.436	1.700	1.517
	1.860	2.095	1.972	1.623	1.734	2.194
	1.389	1.852	2.447	1.755	1.697	2.004
	1.795	2.071	1.950	1.702	1.952	2.101
	2.042	2.111	2.369	1.657	1.839	1.566
	1.693	2.031	1.906	1.581	1.819	1.750
	1.513	1.931	2.344	1.927	1.667	1.876
	1.647	1.381	1.767	1.483	1.530	1.912
	1.853	1.467	2.137	1.741	1.618	1.873
	1.495	1.727	2.194	1.657	1.572	1.739
	1.335	1.929	2.224	1.599	1.695	2.281
	1.772	1.801	2.203	2.567	1.744	2.011
	1.585	1.737	2.398	1.633		1.930
	1.562	1.617	1.756	1.717		2.169
	1.230	1.615	1.762	1.365		2.101
	1.307	1.724	2.222	1.521		1.730
		1.783	2.023	1.575		1.926
		1.861	2.025	1.697		1.697
		1.523	2.602	1.591		1.591
		1.823	1.960	1.637		1.530
		1.925	1.536	1.297		1.683
			2.111	1.718		1.820
			2.191			1.975
			1.966			1.793
<hr/>						
Individual Egg Mass Statistics						
N	92	97	100	98	88	100
Mean	1.888	1.797	2.004	1.838	1.810	1.860
Var. (S ²)	0.078	0.035	0.048	0.068	0.022	0.049
SEM	0.029	0.019	0.022	0.026	0.016	0.022
Combined Egg Mass Statistics						
Total N	6					
Site Mean	1.866					
Var. (S ²)	0.006					
SEM	0.031					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.107	1.964	2.158	2.063	1.597	2.172
DATE	1.658	1.785	2.297	1.856	1.763	2.188
05/02/00	1.864	1.830	1.902	2.311	1.318	2.049
	1.836	1.774	2.133	2.266	1.688	2.085
STUDY DAY	1.517	1.776	2.347	1.588	1.773	2.025
26	1.742	1.891	1.971	1.881	1.860	2.360
	1.943	2.018	1.983	1.895	1.702	1.779
STAGE	1.880	2.460	2.250	1.970	1.640	2.175
	1.992	1.732	1.942	2.157	1.650	1.676
	1.564	2.186	1.835	1.895	1.857	1.857
	1.624	2.120	2.068	1.870	1.767	2.193
	1.698	1.881	1.935	2.619	1.629	2.122
	1.826	1.665	2.130	2.002	1.538	2.353
	1.756	2.041	1.910	1.831	1.600	1.994
	1.530	2.160	2.083	1.782	2.411	2.222
	1.753	1.814	1.881	2.046	2.140	2.062
	1.472	1.982	1.699	2.281	2.122	1.992
	1.895	1.856	2.262	2.009	2.146	1.790
	1.665	1.902	2.000	2.302	2.023	2.363
	1.711	1.874	2.326	1.996	1.914	2.169
	1.606	2.224	2.217	2.057	1.871	2.024
	1.679	2.368	1.964	2.341	1.891	1.919
	1.716	1.998	1.727	2.171	1.996	2.135
	1.832	2.093	1.747	1.960	1.949	2.017
	2.176	1.687	1.957	1.951	2.384	1.801
	2.681	1.660	2.045	2.130	1.863	2.105
	2.034	1.966	2.097	2.094	2.210	1.842
	2.103	1.957	1.890	2.047	1.931	2.138
	1.679	1.948	2.005	1.635	1.906	1.922
	1.440	1.932	2.227	2.157	1.699	1.904
	1.498	1.980	2.025	1.860	1.939	1.802
	1.747	1.883	1.300	1.977	1.911	1.918
	2.720	1.908	1.983	2.388	2.052	2.034
	2.232	1.753	1.679	1.828	1.601	1.704
	2.342	1.861	2.302	1.767	1.796	1.844
	2.266	1.657	2.216	2.022	1.454	1.571
	2.346	1.609	2.154	2.009	1.942	1.778
	1.827	1.754	1.853	2.298	1.607	1.970
	2.034	1.966	1.784	2.128	1.601	1.839
	2.785	1.789	1.611	2.111	1.947	1.793
	2.745	2.026	2.054	2.336	1.863	1.834
	2.365	1.631	2.059	1.803	2.165	1.572
	2.118	1.703	2.335	1.775	1.779	1.794
	1.782	1.968	1.948	1.847	1.811	1.869
	2.279	1.985	2.372	1.958	1.763	2.127
	2.160	2.117	1.921	2.057	1.810	2.027
	1.713	1.855	1.816	2.202	2.171	1.752
	1.835	1.810	2.565	1.351	1.900	1.961
	1.742	1.897	1.773	2.020	1.435	1.794
	2.180	2.031	1.696	1.803	1.499	1.871

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.856	1.718	1.860	1.958	1.947	2.172
1.655	1.797	2.094	1.595	1.576	1.782
2.189	1.894	2.448	2.096	1.696	2.053
1.870	1.945	2.105	1.761	2.018	1.884
1.713	1.442	1.631	2.061	2.231	2.271
2.012	1.783	1.483	1.581	2.157	2.014
1.783	2.072	2.130	1.750	2.052	1.538
1.543	1.826	2.117	1.716	1.782	1.572
1.986	1.979	2.047	2.345	1.947	1.766
1.753	1.941	2.103	1.906	1.880	1.653
1.508	1.991	2.295	1.711	1.449	1.545
1.554	1.519	2.052	1.601	2.071	1.656
1.861	1.760	2.264	2.077	1.516	1.329
2.029	1.726	2.287	2.262	1.753	1.590
1.696	1.651	1.891	1.943		1.583
1.550	1.960	2.092	1.791		1.557
2.091	2.101	2.322	1.636		1.623
2.041	1.755	2.307	2.048		1.794
1.914	1.631	2.090	1.850		1.676
1.856	1.276	2.160	1.604		1.890
1.904	2.064	2.064	1.599		1.714
2.394	1.715	2.165	2.230		1.625
2.625	1.554	2.119	2.074		1.741
1.831	1.832	2.335	1.383		1.782
1.476	1.933	2.231	1.268		1.759
1.286	1.581	1.763	1.286		1.909
1.950	1.640	2.206	1.537		1.618
1.811	1.823	2.232	1.452		1.728
1.662	1.708	2.214	1.589		1.884
1.602	1.792	2.024	1.568		2.073
1.716	1.838	2.158	1.443		2.046
1.633	1.258	1.634	1.850		1.671
	1.456	2.207	1.640		1.890
	1.604	1.447	1.548		1.496
	2.040	1.990	1.667		1.701
	1.631	2.259	1.312		1.746
	1.785	1.916	1.135		1.759
	1.899	2.074	1.513		1.994
	1.641	1.558	1.348		1.989
	1.634	1.816	1.498		1.574
	1.719	2.077	1.562		1.778
	1.602	2.272	1.343		1.769
	1.588	2.027	1.271		1.872
	1.797	1.959			1.808
	1.768	2.143			1.934
	1.755	2.180			1.704
	2.079	2.399			2.257
		2.335			1.815
		2.026			1.945
		1.841			1.925

Individual Egg Mass Statistics

N	82	97	100	93	64	100
Mean	1.891	1.837	2.039	1.861	1.843	1.877
Var. (S ²)	0.102	0.042	0.054	0.094	0.055	0.045
SEM	0.035	0.021	0.023	0.032	0.029	0.021

Combined Egg Mass Statistics

Total N	536
Site Mean	1.892
Var. (S ²)	0.006
SEM	0.031

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
2.233	2.048	2.783	2.520	1.588	1.928
2.214	2.351	1.950	1.691	1 larvae missing	2.110
2.467	1.810	2.281	2.854	from count	1.904
2.597	1.754	2.799	2.279		1.699
1.874	2.073	2.580	1.927		1.688
2.278	1.720	2.091	1.845		1.513
2.117	1.592	2.175	2.245		1.801
1.912	1.320	2.160	1.852		1.700
2.180	2.198	2.143	1.677		1.799
2.092	2.148	2.351	2.233		2.187
2.433	1.845	2.138	2.451		1.954
2.175	1.961	1.931	1.922		1.505
2.404	1.441	2.218	2.085		1.506
2.547	2.048	2.459	2.253		1.643
2.234	1.561	2.134	2.926		1.767
2.296	2.179	2.149	2.466		1.939
2.222	1.953	2.050	2.485		1.779
2.472	1.878	2.380	1.705		1.785
2.037	2.581	2.239	2.111		2.045
2.305	1.940	1.894	2.256		1.740
1.827	2.145	2.059	2.339		1.623
2.270	2.125	2.203	1.658		1.835
1.810	2.707	1.857	1.699		1.793
1.872	2.089	1.823	1.752		1.977
2.111	2.329	2.104	1.689		1.792
1.886	2.387	2.298	1.710		1.816
2.044	2.133	2.047	1.689		2.045
1.834	1.994	2.149	2 larvae missing		1.790
	1.875	2.140	from count		2.449
	1.699	2.060			2.072
	1.821	2.241			2.258
	2.230	1.723			1.972
	2.093	1.821			2.207
	2.139	2.039			2.531
	2.073	2.291			1.992
	2.009	2.189			2.034
	2.133	2.160			2.082
	1.720	2.152			2.097
	2.199	2.110			2.273
	1.972	2.289			1.955
	1.845	1.875			1.634
	1.991	2.358			1.947
	2.196	2.170			1.253
	2.035	2.031			1.772
	1.884	2.601			2.134
		2.213			1.624
		2.005			1.884
		1.856			1.857
		2.203			2.003
		2.225			

Individual Egg Mass Statistics

N	78	95	100	77	51	99
Mean	2.149	2.056	2.190	2.156	1.917	1.895
Var. (S ²)	0.103	0.081	0.057	0.088	0.067	0.048
SEM	0.036	0.029	0.024	0.034	0.036	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.060
Var. (S ²)	0.016
SEM	0.052

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.467	1.876	2.043	2.309	1.948	2.256
DATE	1.922	2.240	2.827	2.376	1.732	2.311
05/12/00	1.838	1.922	2.211	2.731	2.354	2.246
	2.642	2.159	2.068	2.475	2.514	2.280
STUDY DAY	2.443	1.627	2.652	2.582	2.295	2.886
36	1.807	2.831	2.574	2.520	2.470	2.239
	2.128	2.594	2.429	2.774	2.215	2.151
STAGE	2.450	2.248	2.547	2.059	3.194	2.112
	2.172	1.848	2.494	2.233	2.116	2.056
	2.025	2.903	2.262	3.246	2.312	2.499
	1.764	2.160	2.037	2.290	1.864	2.137
	1.496	2.376	1.791	2.356	2.017	2.014
	2.588	2.096	1.857	2.207	2.268	2.148
	1.600	2.575	2.117	2.017	1.955	2.489
	1.908	2.157	2.053	2.597	2.575	2.032
	1.771	1.903	2.392	2.221	2.540	2.396
	2.068	2.363	2.382	2.533	2.259	2.537
	1.858	2.426	2.309	2.229	2.341	2.126
	1.555	2.215	2.879	2.317	1.737	2.253
	1.793	1.906	2.072	2.356	2.151	2.017
	2.135	1.771	2.459	2.137	1.876	2.731
	1.814	2.649	2.645	2.100	1.803	2.147
	1.902	2.394	2.028	2.741	1.952	2.445
	2.766	2.236	1.965	2.475	2.346	1.998
	2.644	1.990	2.059	2.239	2.466	1.955
	1.976	2.114	2.350	1.674	2.085	1.843
	2.236	1.999	2.388	2.065	2.333	2.110
	2.307	2.344	2.065	2.692	1.819	1.709
	2.640	2.199	2.456	2.501	1.991	1.983
	1.899	1.796	1.771	2.251	1.948	1.698
	1.692	2.309	2.313	2.366	2.173	2.192
	2.371	2.271	2.714	2.425	1.856	2.157
	1.707	2.407	2.498	2.093	1.781	2.078
	2.653	2.465	2.439	1.899	2.287	2.217
	2.578	2.550	2.388	2.110	1.870	1.875
	2.328	2.297	2.613	1.924	2.281	1.739
	2.724	2.292	2.219	2.239	1.964	1.893
	2.529	2.415	2.440	2.103	1.899	1.818
	2.271	2.624	2.165	1.941	1.599	1.974
	2.517	2.002	2.905	2.420	2.028	1.913
	1.922	1.698	2.691	2.011	1.876	1.868
	2.489	2.250	2.214	1.815	1.669	2.092
	1.854	2.057	2.652	1.896	1.824	1.848
	2.269	1.980	2.405	2.674	1.817	1.862
	1.873	2.361	2.264	2.331	1.633	1.878
	2.301	2.488	2.453	1.953	1.764	1.833
	2.143	2.020	2.778	2.155	1.863	1.730
	2.329	1.806	2.728	2.613	1.939	2.104
	2.310	1.940	2.467	2.194	1.866	1.913
	2.780	1.966	2.236	2.004	2.436	2.258

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
2.462	1.634	2.192	2.229		1.826
2.736	2.231	2.071	2.032		1.960
2.450	2.172	2.162	1.572		2.305
2.522	2.184	2.318	1.901		1.969
2.268	1.800	1.794	1.961		2.042
1.682	2.578	2.406	1.770		1.991
2.331	2.649	1.891	1.867		1.896
2.739	2.351	2.097	2.233		1.870
2.037	2.733	2.758	2.358		2.143
2.474	2.106	2.725	1.619		1.890
2.464	1.648	2.115	2.167		2.014
2.756	2.203	2.161	2.187		2.333
2.414	1.482	1.848	2.109		2.233
2.599	2.983	2.206	1.761		2.166
2.504	2.394	2.003	1.978		2.367
1.690	1.998	2.274	1.947		2.144
2.614	1.872	2.582	2.486		2.126
1.953	2.258	2.141	2.035		2.078
2.319	2.073	2.450	2.112		2.733
2.042	2.108	1.979	1.908		2.290
2.384	1.673	2.208	1.639		1.739
2.345	3.346	1.950	2.053		1.763
2.126	2.101	2.521	1.858		2.698
1.986	2.375	2.401	1.744		1.959
2.861	1.870	2.214	1.999		2.055
2.033	2.499	2.641	1.550		2.419
	2.079	2.165	2.392		2.603
	2.216	2.476	2.987		2.086
	2.262	2.833			1.951
	2.190	2.233			2.071
	2.413	2.970			2.013
	2.137	2.017			1.833
	2.220	2.261			2.075
	2.159	2.997			2.310
	2.122	2.484			2.068
	2.405	1.980			2.233
	2.014	3.047			2.119
	1.926	2.386			1.858
	1.933	2.271			1.932
	1.852	2.432			1.952
	2.307	2.328			1.969
	2.170	2.098			1.766
	2.392	2.509			2.266
	2.653	2.306			1.991
		2.560			2.094
		2.466			2.091
		2.873			2.175
		2.210			2.437
		2.525			
		2.786			

Individual Egg Mass Statistics

N	76	94	100	78	50	98
Mean	2.224	2.201	2.351	2.191	2.078	2.101
Var. (S ²)	0.122	0.101	0.086	0.106	0.095	0.058
SEM	0.040	0.033	0.029	0.037	0.044	0.024

Combined Egg Mass Statistics

Total N	6
Site Mean	2.191
Var. (S ²)	0.010
SEM	0.040

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.501	2.139	2.787	2.311	2.771	2.623
DATE	1.984	2.320	2.747	2.185	2.874	2.544
05/17/00	2.034	1.768	2.389	2.046	2.519	2.956
	1.440	2.707	2.518	2.310	3.246	2.857
STUDY DAY	3.117	2.754	2.119	2.241	2.802	2.732
41	2.035	2.607	1.897	1.818	2.683	2.195
	2.447	2.458	2.298	2.386	2.759	2.152
STAGE	2.290	2.210	2.274	2.368	2.652	2.670
	2.736	2.293	2.233	2.843	2.947	2.506
	2.434	2.270	2.991	3.359	2.267	2.178
	2.101	2.808	2.097	2.760	1.999	2.572
	2.628	2.075	2.896	2.457	2.317	2.521
	1.898	1.841	2.414	2.522	2.554	2.483
	2.028	3.090	3.125	2.354	3.098	2.786
	1.835	2.931	2.213	2.306	2.627	2.469
	1.761	2.123	2.647	2.288	3.251	2.573
	2.898	2.425	2.322	2.282	3.038	2.197
	2.482	2.124	2.458	2.471	2.162	2.857
	1.908	2.963	2.678	2.321	2.806	1.753
	2.891	2.385	2.654	2.404	2.959	2.460
	1.747	2.498	2.344	1.952	2.622	2.579
	1.864	2.147	2.473	2.465	2.754	2.404
	1.815	2.358	2.286	2.772	1.714	2.641
	2.508	3.075	2.292	2.210	2.186	2.801
	2.648	2.231	3.010	2.376	1.888	2.433
	2.326	2.280	2.389	2.581	2.811	2.559
	3.293	3.269	3.206	2.388	2.293	2.625
	2.740	2.176	2.442	2.726	2.031	2.041
	1.999	3.161	2.489	2.157	1.912	2.278
	2.882	2.353	2.421	2.457	1.962	2.179
	3.299	2.541	2.709	1.949	1.860	2.264
	2.664	2.413	2.628	2.195	1.998	2.090
	2.632	2.855	2.915	2.173	2.085	2.096
	2.547	1.941	2.785	2.621	2.608	2.107
	2.620	2.433	1.984	2.657	2.177	2.075
	2.313	2.662	2.708	2.334	2.673	2.091
	2.379	2.592	2.109	2.393	2.874	1.816
	2.730	2.646	2.202	1.820		1.533
	3.099	3.099	3.166	1.929		2.074
	3.138	2.458	2.379	2.021		2.098
	2.810	2.083	2.732	2.705		2.652
	2.219	2.719	2.608	2.050		2.142
	3.117	2.188	2.477	2.033		2.245
	3.094	2.459	2.137	2.589		2.203
	2.922	2.470	2.592	2.121		2.294
	2.448	2.261	2.474	2.098		1.938
	3.454	2.667	2.159	2.742		2.038
	2.721	2.590	2.639	2.362		1.979
	2.953	2.430	2.286	2.142		2.291
	2.127	2.514	2.350	2.219		2.069

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.273	2.478	2.575	2.085		2.459
	2.058	2.417	2.143	2.081		1.918
	2.687	2.545	2.109	2.039		2.578
	3.069	2.661	2.042	2.167		2.371
	2.636	2.718	2.414	1.998		2.745
	2.322	1.992	2.095	2.338		2.252
	2.245	2.147	1.975	1.981		2.821
	2.309	2.440	2.228	1.864		2.375
	3.393	2.437	2.332	1.904		2.066
	2.521	2.263	2.445	2.160		3.049
	2.845	2.482	2.781	2.053		2.216
	2.452	2.257	2.602	2.251		2.056
	2.590	1.840	2.562	2.183		2.614
	2.294	3.096	2.461	1.986		2.205
	3.048	2.189	2.125	2.042		2.369
	2.454	2.310	2.271	1.962		2.187
	2.813	2.531	2.202	1.814		1.874
	2.675	3.083	2.262	2.663		1.961
	2.653	2.249	2.214	2.355		2.017
	1.989	2.056	2.409	2.597		2.776
	2.378	2.388	2.304	2.338		2.458
	2.448	2.346	2.182	2.786		2.658
	2.650	1.820	2.101	2.074		2.519
	2.636	2.075	2.379	2.222		2.283
	2.791	2.157	2.399	2.448		1.998
		2.512	2.374	2.718		2.084
		2.311	2.075	2.784		2.111
		2.082	2.324			2.036
		2.041	2.028			1.968
		2.803	2.630			2.042
		2.268	2.465			2.153
		2.204	2.488			2.051
		2.244	2.448			2.329
		2.330	2.180			2.427
		1.827	2.318			2.754
		2.320	2.719			2.103
		2.201	2.300			2.031
		2.877	2.592			2.677
		1.876	2.407			2.180
		1.964	2.684			2.247
		2.264	2.220			2.298
		2.913	2.941			2.186
			2.064			2.454
			2.132			2.139
			2.250			2.216
			2.454			
			2.438			
			2.217			
			2.601			
			2.688			
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Individual Egg Mass Statistics						
N	75	92	100	77	37	95
Mean	2.517	2.412	2.428	2.301	2.507	2.316
Var. (S ²)	0.187	0.114	0.076	0.086	0.179	0.087
SEM	0.050	0.035	0.028	0.034	0.070	0.030
 Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.414					
Var. (S ²)	0.008					
SEM	0.037					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.701	3.338	2.991	3.061	3.127	2.385
DATE	3.618	2.688	2.687	1.987	2.804	2.801
05/22/00	2.382	3.139	2.734	2.885	3.692	2.783
	3.031	2.868	2.033	2.652	3.085	1.832
STUDY DAY	1.961	3.801	2.750	2.818	3.599	2.631
46	3.784	3.170	2.486	2.815	2.390	2.334
	2.398	2.699	3.276	2.665	2.662	2.959
STAGE	2.981	2.986	3.078	2.568	2.956	3.329
35	2.567	3.601	2.397	2.255	4.280	2.905
	3.073	3.037	2.594	2.447	2.601	2.583
	2.736	2.758	2.336	2.567	3.049	3.097
	2.646	2.522	2.286	2.346	2.476	2.446
	1.967	2.638	2.865	2.973	2.347	2.295
	2.867	2.772	2.383	3.990	3.339	2.328
	2.740	3.065	2.870	2.932	2.362	2.892
	2.081	2.373	2.120	2.717	2.734	2.354
	2.956	2.390	2.300	3.120	2.557	2.668
	3.209	2.863	2.523	3.030	2.959	2.659
	2.573	2.665	3.240	3.027	2.879	2.693
	2.346	2.888	3.577	2.430	2.755	2.176
	3.029	3.467	2.435	3.128	3.837	2.533
	3.152	2.865	2.604	2.596	3.174	2.529
	3.445	2.649	1.924	2.947	3.063	2.935
	2.801	2.332	2.733	3.084	3.397	2.352
	2.785	1.904	2.801	2.612	2.219	2.283
	2.892	2.817	3.295	2.479	3.305	2.094
	3.554	2.474	2.876	2.604	2.944	2.399
	2.581	1.913	2.523	3.174	2.675	2.004
	3.571	2.774	2.504	2.682	2.317	1.930
	3.944	2.375	2.753	2.802	2.601	2.104
	2.574	2.360	2.326	2.528		2.054
	2.478	2.320	3.182	2.946		1.802
	2.942	2.177	2.460	2.856		2.529
	3.519	2.129	3.280	2.918		2.186
	2.452	3.211	2.584	2.250		2.125
	3.314	2.196	2.596	2.327		2.742
	3.100	2.583	2.866	2.396		2.089
	2.951	2.720	2.840	2.261		2.162
	3.358	2.792	3.284	2.227		2.293
	2.702	2.367	3.056	2.526		2.452
	3.170	2.637	2.699	2.799		2.202
	2.322	2.994	2.787	3.320		1.670
	2.754	2.909	1.876	2.836		2.046
	2.382	2.075	2.714	3.662		2.512
	3.269	3.038	2.951	2.136		2.338
	3.108	2.354	2.388	2.667		2.430
	2.572	3.634	2.930	2.268		2.323
	2.992	3.676	2.151	2.496		2.238
	2.592	2.193	2.950	2.044		2.643
	2.512	3.213	2.722	3.006		2.659

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.511	2.670	2.981	2.660		2.466
	2.921	2.695	2.143	2.739		2.509
	2.844	2.174	2.813	2.427		2.277
	2.965	2.164	2.790	2.261		2.121
	2.706	2.643	2.972	2.928		2.792
	2.750	2.602	2.842	2.387		1.994
	2.324	2.655	2.942	2.484		2.526
	2.628	2.059	2.677	2.489		2.005
	2.870	2.990	2.790	2.776		2.667
	3.218	2.173	2.735	2.095		2.820
	3.145	2.693	2.598	2.647		2.614
	2.917	2.408	3.165	2.877		1.903
	3.221	2.265	2.708	2.956		2.154
	2.792	2.289	2.476	2.382		2.008
	3.535	1.900	2.568	2.152		2.041
	2.879	2.981	2.724	2.209		2.358
	2.432	1.979	2.702	2.828		2.481
	4.338	2.109	3.298	3.201		1.732
	2.789	2.243	2.791	2.181		2.280
	2.382	2.424	2.754	2.708		1.906
	3.302	3.571	2.426	2.542		2.144
	2.449	2.562	3.017	2.882		1.951
	3.821	2.252	3.026	2.482		2.107
		2.385	2.461	3.011		1.818
		2.504	2.450	2.493		2.259
		2.368	2.818			1.967
		2.748	2.374			2.466
		2.540	2.661			2.358
		2.279	2.532			2.541
		2.318	2.404			2.211
		2.523	2.395			2.552
		2.253	2.847			2.527
		1.982	2.704			2.339
		2.850	3.603			2.719
		2.158	2.562			2.289
		1.930	2.618			2.496
		2.737	2.617			2.572
		2.326	2.630			2.523
			2.441			1.945
			2.129			2.236
			2.708			
			2.791			
			2.284			
			2.382			
			2.264			
			2.901			
			2.307			
			2.274			
			2.180			
			2.133			
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Individual Egg Mass Statistics						
N	73	88	100	75	30	90
Mean	2.893	2.612	2.670	2.675	2.940	2.361
Var. (S ²)	0.211	0.192	0.116	0.134	0.241	0.105
SEM	0.054	0.047	0.034	0.042	0.090	0.034
Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.692					
Var. (S ²)	0.044					
SEM	0.085					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	3.785	4.072	4.035	4.263	3.880	3.490
DATE	3.875	3.330	2.445	3.379	3.485	3.866
06/02/00	4.181	3.061	2.642	4.572	4.288	3.469
	2.479	2.910	3.199	2.976	4.342	2.619
STUDY DAY	3.522	3.582	3.567	3.299	3.523	3.298
57	3.073	3.918	3.833	4.576	2.823	3.534
	3.680	3.372	2.747	3.191	4.303	3.324
STAGE	3.431	2.921	3.364	3.983	3.884	3.454
38	2.899	4.386	3.146	3.269	2.452	3.378
	3.225	2.768	4.256	3.542	3.446	2.424
	2.997	3.210	4.003	3.407	3.566	2.546
	3.570	4.159	3.857	4.261	3.558	3.720
	3.509	3.736	3.067	1.948	3.839	3.831
	3.964	3.982	3.313	3.394	3.514	3.857
	3.802	2.891	3.583	3.634	3.821	3.225
	3.242	4.064	2.609	2.831	3.620	3.362
	3.461	3.478	2.631	3.210	3.443	2.582
	3.305	4.003	4.657	3.642	3.967	3.491
	2.605	3.263	2.526	2.995	4.297	2.944
	3.914	3.266	3.390	3.277	4.211	3.369
	3.021	3.210	2.716	3.343	3.367	3.583
	3.998	2.894	3.612	2.947	3.683	2.224
	4.430	3.691	4.152	4.254	3.162	2.010
	4.399	3.507	4.004	2.599	3.231	3.567
	4.068	3.646	3.170	3.420	4.628	2.736
	3.897	3.735	3.621	4.445	3.442	2.793
	3.872	4.068	2.894	3.222	3.820	3.106
	3.031	4.279	3.957	3.701	4.111	2.464
	4.278	4.324	3.231	2.544	3.082	3.758
	3.436	3.591	2.787	3.513	3.697	2.648
	3.527	4.494	2.524	3.266		2.525
	3.329	4.334	4.244	2.948		3.133
	3.279	2.497	3.014	3.342		2.285
	4.442	3.160	3.626	2.413		2.726
	3.255	3.357	3.987	2.725		2.183
	3.611	3.244	2.125	3.184		2.637
	3.894	3.429	2.700	3.463		2.532
	3.749	2.324	3.530	3.260		2.697
	2.529	2.691	3.174	2.753		3.101
	3.533	4.073	3.000	3.675		3.113
	3.610	4.628	3.381	3.640		2.621
	4.007	3.055	3.033	2.881		3.038
	4.104	4.330	3.067	3.302		4.213
	3.927	3.306	2.820	4.110		3.597
	3.743	2.991	3.344	3.028		2.736
	3.188	4.457	2.676	2.595		3.081
	3.484	4.747	3.787	3.399		3.290
	3.020	3.945	3.987	4.131		2.413
	3.441	5.095	3.952	2.802		3.843
	3.232	3.945	3.576	4.177		2.212

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
3.114	4.777	4.027	3.364		2.326
3.599	3.414	4.189	2.652		2.588
3.742	4.220	2.849	3.747		3.180
3.397	3.819	3.673	2.412		3.391
2.934	4.601	3.056	3.472		4.347
2.505	4.384	3.306	3.231		3.673
3.575	4.742	4.042	2.881		2.292
3.138	3.947	2.510	2.700		3.166
2.816	4.042	2.799	2.683		2.865
3.316	4.790	3.461	2.855		2.924
3.956	4.760	3.834	3.134		3.114
4.269	3.603	3.244	3.370		2.835
3.479	2.912	3.055	3.270		3.227
3.301	2.362	2.911	3.589		2.737
3.468	2.669	3.674	3.554		3.739
2.742	3.320	3.054	3.545		3.317
3.580	3.427	3.599	3.329		2.962
2.898	3.369	3.443	3.009		2.776
	3.084	3.157	4.182		2.633
	2.868	4.160	3.707		2.951
	2.472	3.061	2.995		3.329
	3.936	3.318	4.591		2.022
	4.120	3.035	3.943		2.931
	2.544	3.640	4.151		2.949
	3.387	4.336			3.344
	3.395	2.452			2.975
	3.863	3.553			2.841
	2.570	3.037			2.710
	3.963	3.821			2.494
	3.621	3.003			2.413
	2 larvae missing from count	4.308			3.300
		3.133			2.927
		3.582			3.002
		3.134			2.718
		2.689			2.985
		3.158			3.152
		3.187			2.407
		3.391			
		3.259			
		3.959			
		3.844			
		3.732			
		3.385			
		3.127			
		3.041			
		3.465			
		3.481			

Individual Egg Mass Statistics

N	68	80	97	74	30	87
Mean	3.495	3.630	3.358	3.366	3.683	3.014
Var. (S ²)	0.225	0.441	0.270	0.317	0.229	0.251
SEM	0.057	0.074	0.053	0.065	0.087	0.054

Combined Egg Mass Statistics

Total N	6
Site Mean	3.424
Var. (S ²)	0.058
SEM	0.098

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	4.109	4.438	3.025	3.289		4.400
DATE		1.789	2.188			4.221
07/20/00		4.624	3.303			4.750
						1.638
STUDY DAY						3.989
105						3.690
						3.723
STAGE						3.039
41						

Individual Egg Mass Statistics

N	1	3	3	1	0	8
Mean	4.109	3.617	2.838	3.289	na	3.681
Var. (S ²)	na	2.515	0.337	na	na	0.948
SEM	na	0.916	0.335	na	na	0.344

Combined Egg Mass Statistics

Total N	5
Site Mean	3.507
Var. (S ²)	0.225
SEM	0.212

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE			3.482			
08/10/00			2.302			
STUDY DAY						
126						
STAGE						
27						

Individual Egg Mass Statistics

N	0	0	2	0	0	0
Mean	na	na	2.892	na	na	na
Var. (S ²)	na	na	0.696	na	na	na
SEM	na	na	0.590	na	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	2.892
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	22	2.035	1.749	1.828	1.909	1.937
45	25	2.325	2.340	2.365	2.267	2.381
73	30	3.210	2.882	3.114	2.878	3.071
104	32	3.953	3.157	3.575	3.678	3.923
135	31	4.246	na	3.779	4.088	3.967
156	36	4.445	na	3.867	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	0.019	0.018	0.018	0.020	0.018
45	0.035	0.033	0.033	0.041	0.051
73	0.076	0.097	0.082	0.094	0.096
104	0.085	0.269	0.093	0.110	0.182
135	0.116	na	0.148	0.107	0.138
156	0.114	na	0.254	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	2.259	1.918	1.841	1.994	2.220	
DATE	2.002	1.969	1.784	1.981	2.014	
04/21/00	2.205	1.729	1.803	1.893	2.043	
	2.390	1.760	2.130	2.099	2.097	
STUDY DAY	2.127	1.774	1.620	1.950	1.908	
10	2.374	1.558	1.841	1.437	2.197	
	2.409	1.763	1.942	1.886	2.153	
STAGE	2.113	1.832	1.708	1.875	1.906	
22	2.273	1.689	2.059	2.040	2.323	
	1.859	1.703	2.063	2.086	1.809	
	1.809	1.831	1.881	1.737	2.265	
	1.962	1.695	1.884	1.780	2.021	
	2.113	1.857	1.748	2.175	2.145	
	1.831	1.981	2.006	1.991	2.307	
	2.122	1.987	1.469	2.145	1.875	
	2.058	1.488	1.867	1.949	1.743	
	2.026	1.645	1.999	1.910	1.890	
	1.873	1.918	1.817	1.899	1.789	
	2.092	1.661	1.925	1.689	1.917	
	2.056	1.893	1.632	2.043	2.039	
	1.881	1.974	1.693	1.949	1.970	
	1.599	1.676	2.069	2.005	1.862	
	2.043	2.031	1.736	1.990	1.837	
	1.968	1.639	1.749	1.676	1.816	
	2.077	1.979	1.766	1.888	2.185	
	2.398	1.612	1.839	1.964	2.237	
	1.983	1.698	1.643	1.847	1.846	
	1.941	1.372	1.904	1.871	2.145	
	2.427	1.534	1.541	2.194	1.989	
	2.025	1.753	1.690	2.145	2.001	
	1.789	1.346	1.879	1.667	2.202	
	1.711	1.582	1.777	1.689	2.124	
	1.925	1.461	1.765	1.803	2.039	
	2.234	1.469	2.091	1.903	1.972	
	1.929	1.899	2.012	1.702	2.323	
	1.921	1.233	1.622	1.848	2.097	
	1.893	1.712	1.733	1.665	2.009	
	2.127	1.584	1.753	2.034	1.858	
	2.065	1.917	1.805	2.109	1.934	
	1.977	1.688	1.768	1.480	2.026	
	1.480	1.720	1.821	1.893	1.775	
	1.643	1.455	2.049	1.875	1.901	
	1.906	1.722	2.561	2.109	2.128	
	1.872	1.715	2.045	2.077	2.033	
	1.965	1.667	2.012	1.841	1.760	
	2.082	1.684	1.930	2.259	2.214	
	1.765	1.861	2.142	1.937	2.063	
	1.940	1.825	1.925	1.957	1.870	
	1.938	1.849	1.679	1.910	1.721	
	1.933	1.733	2.061	1.853	2.039	
	2.281	1.841	1.809	1.909	1.831	
	2.089	1.869	1.781	1.999	2.085	
	2.158	1.715	1.710	2.025	1.875	
	1.968	1.724	1.684	1.745	1.962	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
1.879	1.715	1.941	1.940	1.731	
1.807	1.655	1.635	1.511	1.809	
2.294	1.758	1.933	1.689	1.650	
1.990	1.777	1.899	1.667	2.000	
1.785	2.073	1.605	1.748	1.839	
2.161	1.782	1.933	1.516	1.826	
2.169	1.786	1.818	1.538	1.690	
2.106	1.772	2.066	1.655	1.683	
2.083	2.137	1.680	1.879	1.877	
2.183	1.800	1.818	1.715	1.740	
2.097	1.618	2.129	1.665	1.756	
2.002	1.849	2.091	1.937	2.130	
1.968	1.727	1.723	1.941	1.745	
1.918	1.835	1.928	1.342	2.097	
2.012	1.683	1.817	1.875	1.739	
2.328	1.910	1.682	1.875	1.988	
2.066	1.999	1.789	1.840	1.789	
2.107	1.544	1.968	1.748	2.009	
2.076	1.862	1.942	1.806	1.816	
2.078	1.551	2.006	1.816	1.999	
2.497	1.693	1.760	1.650	1.743	
2.164	2.000	1.772	2.141	1.721	
2.127	1.789	1.965	2.131	2.009	
1.917	1.589	1.830	1.766	1.739	
2.106	1.859	1.737	1.753	2.130	
1.974	2.005	1.565	2.089	1.565	
2.385	1.886	1.745	1.784	2.006	
1.942	1.918	1.483	2.158	2.059	
2.175	1.857	1.512	1.706	1.665	
1.955	1.592	1.746	2.438	1.484	
2.307	1.717	1.839	2.112	2.012	
2.043	1.959	1.557	2.040	1.821	
2.152	1.965	1.566	2.103	1.817	
1.942	1.544	1.906	2.012	2.138	
1.929	1.415	1.760	2.055	1.816	
2.291	1.597	1.757	1.831	1.970	
1.745		1.676	1.945	1.792	
2.156		1.657	1.936	1.898	
2.049		2.004	2.247	2.013	
2.041		1.765	2.039	1.802	
1.959		1.348	2.290	2.069	
1.753		1.679	2.305	1.974	
1.953		2.179	2.194	2.046	
1.877		1.904	2.097	1.597	
		1.925	1.968	1.625	
		1.677	2.065		

Individual Egg Mass Statistics

N	98	90	100	100	99
Mean	2.035	1.749	1.828	1.909	1.937
Var. (S ²)	0.035	0.030	0.033	0.040	0.032
SEM	0.019	0.018	0.018	0.020	0.018

Combined Egg Mass Statistics

Total N	5
Site Mean	1.892
Var. (S ²)	0.012
SEM	0.049

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	2.814	2.098	2.682	2.167	2.481	
DATE	1.849	2.173	2.145	2.829	2.067	
05/26/00	2.063	2.065	2.328	2.398	2.252	
	2.477	2.278	2.445	1.557	2.194	
STUDY DAY	2.331	2.100	2.850	1.654	2.238	
45	2.266	2.033	2.377	1.682	2.509	
	1.723	2.762	2.258	1.997	1.501	
STAGE	1.649	2.103	2.092	2.712	2.485	
25	2.405	2.037	1.977	2.658	2.033	
	2.850	2.097	2.173	2.863	1.981	
	1.942	2.386	2.487	2.635	2.595	
	2.469	2.438	2.258	2.179	2.253	
	2.326	2.473	2.898	2.033	2.588	
	2.256	2.298	2.183	2.106	1.989	
	2.660	3.069	1.821	2.325	1.809	
	2.576	2.858	2.197	2.202	2.457	
	2.521	2.170	2.410	1.950	2.275	
	2.197	2.607	2.040	2.177	2.652	
	2.733	1.959	2.849	2.494	2.235	
	2.613	1.643	2.459	2.292	1.839	
	1.886	2.884	2.467	2.203	2.199	
	1.938	2.199	2.582	2.153	2.477	
	2.115	2.208	2.408	1.875	2.519	
	2.358	2.526	2.555	1.761	3.353	
	2.445	2.604	2.615	2.285	2.469	
	2.025	2.253	2.784	2.025	2.258	
	2.941	2.003	2.244	2.558	2.275	
	2.334	2.387	2.020	2.199	1.942	
	1.558	2.481	2.975	2.404	2.264	
	2.562	2.500	2.209	2.202	1.762	
	2.031	2.346	2.286	2.685	1.997	
	2.121	2.326	2.222	2.130	2.328	
	2.237	2.234	2.301	1.739	2.267	
	2.330	2.341	2.294	1.645	2.526	
	2.580	2.341	2.167	2.000	2.908	
	2.227	2.213	1.867	1.830	2.358	
	2.824	2.556	1.865	3.123	2.241	
	2.012	2.162	2.620	2.309	2.450	
	2.459	1.648	1.872	2.081	1.939	
	1.881	2.317	2.428	2.177	2.066	
	2.071	2.457	2.284	2.699	3.393	
	2.380	2.429	2.164	1.994	3.001	
	2.465	2.429	2.601	1.823	2.776	
	2.584	2.129	2.271	1.793	2.483	
	2.318	2.448	2.708	2.350	2.762	
	2.657	2.558	2.194	2.043	2.809	
	2.194	2.366	2.077	2.001	3.129	
	1.888	2.016	2.497	2.614	2.525	
	1.956	2.251	2.889	2.518	2.205	
	2.254	2.673	2.158	2.296	2.355	
	2.113	2.510	2.469	2.075	3.181	
	2.179	2.540	2.751	2.244	2.035	
	2.300	2.517	2.247	1.657	2.854	
	2.848	2.691	2.660	2.633	2.194	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
1.942	2.324	2.614	2.075	2.561	
2.663	2.025	2.449	1.698	2.217	
2.398	2.339	1.921	2.247	2.196	
1.981	2.505	1.925	2.937		
1.846	2.781	2.191	2.652		
2.790	2.420	2.616	2.505		
2.465	2.348	2.353	2.066		
1.749	2.518	2.273	2.650		
2.121	2.294	1.950	2.445		
2.348	2.049	2.101	2.259		
2.901		2.258	1.985		
2.271		2.546	2.067		
2.372		2.747	1.584		
2.010		2.281	2.210		
2.614		2.961	3.277		
2.533		2.292	2.518		
2.393		2.175	2.129		
2.626		2.353	2.537		
2.602		2.481	2.401		
2.921		2.273	3.055		
2.904		2.142	1.980		
2.556		2.194	2.897		
2.727		2.499	1.881		
1.501		3.170	3.085		
1.899			2.045		
2.185			2.522		
2.411			2.581		
2.438			2.618		
2.440			2.345		
2.261			2.337		
2.376			2.066		
2.165					
2.049					
2.841					
2.438					
2.756					

Individual Egg Mass Statistics

N	90	64	78	85	57
Mean	2.325	2.340	2.365	2.267	2.381
Var. (S ²)	0.111	0.071	0.085	0.144	0.148
SEM	0.035	0.033	0.033	0.041	0.051

Combined Egg Mass Statistics

Total N	5
Site Mean	2.336
Var. (S ²)	0.002
SEM	0.020

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
DATE 06/23/00	2.359	3.148	4.646	4.102	3.706	
	4.265	2.605	2.764	3.253	3.243	
	4.057	3.161	3.179	3.538	2.955	
STUDY DAY 73	2.612	3.512	3.816	4.412	3.554	
	4.441	2.039	4.148	2.933	3.021	
	4.057	2.844	3.185	2.952	3.280	
STAGE 30	4.167	3.075	3.076	2.420	4.074	
	2.098	1.564	4.869	3.862	2.926	
	3.536	2.347	3.086	3.043	2.401	
	3.890	2.139	2.731	4.087	2.819	
	2.654	3.362	2.794	2.695	2.401	
	2.907	3.108	3.677	3.830	3.355	
	3.732	3.428	3.097	2.632	2.446	
	3.820	2.838	2.971	2.464	2.986	
	3.419	1.843	2.454	2.133	3.045	
	3.215	2.050	3.382	3.281	3.282	
	3.565	2.659	2.656	2.946	2.205	
	3.035	2.780	2.745	2.586	2.791	
	2.337	3.377	2.650	2.190	3.476	
	3.029	2.302	2.716	1.832	2.116	
	3.760	3.076	2.841	4.321	3.922	
	3.655	2.684	2.585	3.655	2.958	
	2.645	2.207	2.828	3.336	3.497	
	1.673	2.489	4.023	3.073	4.084	
	3.021	2.285	2.928	2.956	4.538	
	3.318	3.120	2.341	2.341	2.664	
	3.618	2.858	3.119	3.497	2.870	
	4.268	3.504	2.297	3.264	2.084	
	3.263	3.389	2.693	2.257	3.460	
	3.379	2.669	2.664	2.901	2.443	
	2.756	3.532	3.415	2.252	2.875	
	3.116	3.724	2.462	2.034	2.357	
	3.491	3.468	3.770	3.380	3.176	
	3.881	3.274	2.023	2.460	3.331	
	3.116	2.718	2.323	2.618	2.998	
	3.635	3.167	2.350	2.989	3.199	
	3.516	4.290	2.801	3.010		
	3.578		2.948	2.415		
	3.498		3.596	1.862		
	3.774		3.286	1.771		
	2.962		3.228	4.244		
	2.640		3.671	2.944		
	3.961		3.419	2.727		
	3.993		4.407	2.487		
	3.634		2.976	2.570		
	3.534		3.547	3.554		
	2.807		1.963	2.885		
	1.888		2.380	2.194		
	4.076		2.813	2.178		
	2.196		3.349	2.308		
	3.746		3.351	2.084		
	2.145		4.209	3.724		
	2.837		3.547	1.843		
	2.454		3.498	2.875		

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
2.123		3.579	1.573		
3.447		3.060	3.366		
3.707		3.152	1 larvae missing		
2.064		2.519	from count		
2.677					
2.885					
3.173					
2.715					
3.153					
2.944					
4.671					
2.897					
2.698					
2.459					
4.087					
2.614					
2.853					
4.046					
3.188					
2.147					
2.467					
3.405					
3.740					

Individual Egg Mass Statistics

N	77	37	58	56	36
Mean	3.210	2.882	3.114	2.878	3.071
Var. (S^2)	0.450	0.346	0.387	0.493	0.332
SEM	0.076	0.097	0.082	0.094	0.096

Combined Egg Mass Statistics

Total N	5
Site Mean	3.031
Var. (S^2)	0.022
SEM	0.066

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	4.176	2.381	3.949	3.613	4.531	
DATE	4.125	3.261	3.076	3.333	3.968	
07/24/00	3.300	2.521	4.337	4.259	3.908	
	3.605	3.656	3.615	3.462	4.129	
STUDY DAY	4.133	4.403	3.878	2.542	4.486	
104	3.193	2.685	3.615	4.625	2.987	
	4.377	3.192	5.697	3.541	3.916	
STAGE	4.476		5.197	2.652	3.393	
32	3.989		4.814	3.815	3.507	
	3.491		3.672	2.628	3.040	
	3.713		3.321	3.894	3.353	
	3.669		3.579	4.741	4.336	
	4.476		2.846	3.566	3.249	
	3.923		2.626	2.535	3.198	
	3.714		3.607	3.685	3.132	
	4.969		2.904	3.534	3.668	
	3.991		3.420	4.335	3.026	
	3.695		2.876	3.622	4.134	
	3.559		3.359	4.205	4.815	
	4.597		2.830	3.151	6.124	
	4.698		3.227	3.649	5.490	
	2.856		2.988	2.428		
	4.270		2.701	3.814		
	4.666		3.193	3.787		
	4.545		2.671	2.778		
	4.420		3.613	4.328		
	4.389		5.575	2.949		
	3.901		3.569	4.712		
	2.704		3.833	4.937		
	3.281		3.980	3.888		
	4.091		2.943	3.497		
	2.524		3.913	2.442		
	4.658		2.713	3.970		
	3.791		3.235	3.257		
	3.482		2.974	5.285		
	4.718		3.171	4.140		
	4.726		3.317	2.971		
	4.313		4.044	5.406		
	3.253		3.017	3.659		
	3.248		2.652	4.746		
	3.466		3.131	4.867		
	3.362		3.605	3.001		
	3.726		3.130	2.771		
	4.302		3.789	3.441		
	4.001		3.319	3.236		
	2.488		3.017	3.345		
	4.897		3.625	3.975		
	5.325		5.118	3.157		
	4.942		3.971	3.627		
	3.579		3.915	5.150		
	3.390		3.829	4.885		
	4.199		3.867	2.786		
	4.494		2.654	2.329		
	4.034		4.530			

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
3.325		3.574			
4.112		4.055			
		3.808			
		3.866			

Individual Egg Mass Statistics

N	56	7	58	53	21
Mean	3.953	3.157	3.575	3.678	3.923
Var. (S ²)	0.403	0.507	0.497	0.641	0.697
SEM	0.085	0.269	0.093	0.110	0.182

Combined Egg Mass Statistics

Total N	5
Site Mean	3.657
Var. (S ²)	0.104
SEM	0.144

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	5.380		5.019	5.077	3.854	
DATE	4.504		5.796	4.901	3.767	
08/24/00	3.910		3.992	4.935	4.339	
	3.491		5.281	5.112	3.841	
STUDY DAY	4.521		4.825	4.995	3.920	
135	4.474		4.369	4.105	3.916	
	4.498		3.881	4.815	3.501	
STAGE	5.647		4.966	5.504	4.446	
31	4.259		4.614	5.016	5.087	
	4.798		4.509	3.573	3.203	
	4.831		3.283	3.747	3.511	
	4.033		4.252	3.938	4.729	
	4.251		3.275	5.034	3.892	
	3.691		2.316	3.550	3.531	
	3.617		2.410	3.503		
	4.386		5.561	4.949		
	4.710		3.370	3.973		
	3.637		2.856	3.944		
	4.448		2.822	4.785		
	4.044		2.303	3.565		
	4.194		3.132	3.031		
	4.032		3.337	3.258		
	3.864		3.495	4.312		
	3.240		4.710	4.298		
	4.037		2.987	5.131		
	5.191		2.986	3.607		
	2.814		3.648	4.181		
	3.368		3.418	3.646		
	4.147		3.298	3.314		
	3.654		4.068	3.991		
	5.459		2.882	2.071		
	4.735		3.764	2.984		
			4.087	4.536		
			4.212	3.622		
			3.071	3.364		
			3.408	3.253		
			3.630	3.854		
				3.493		
				5.032		
				3.483		
				3.925		
				4.677		
				3.874		
				3.012		
				4.168		
				3.962		
				4.733		
				4.404		
<hr/>						
Individual Egg Mass Statistics						
N	32	0	37	48	14	
Mean	4.246	na	3.779	4.088	3.967	
Var. (S ²)	0.429	na	0.807	0.550	0.268	
SEM	0.116	na	0.148	0.107	0.138	
 Combined Egg Mass Statistics						
Total N	4					
Site Mean	4.020					
Var. (S ²)	0.039					
SEM	0.098					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	5.570		3.462			
DATE	4.439		3.334			
09/14/00	4.525		5.422			
	4.659		4.000			
STUDY DAY	4.656		4.162			
156	4.242		2.982			
	4.099		4.014			
STAGE	4.119		3.073			
36	3.886		4.353			
	4.950					
	4.029					
	4.706					
	4.911					
	3.426					
	4.410					
	4.468					
	4.820					
	4.097					

Individual Egg Mass Statistics

N	18	0	9	0	0
Mean	4.445	na	3.867	na	na
Var. (S^2)	0.233	na	0.580	na	na
SEM	0.114	na	0.254	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	4.156
Var. (S^2)	0.167
SEM	0.289

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)
 DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
16	21	2.025	1.966	1.956	1.918	1.774	1.917
52	32	3.612	3.632	2.572	2.709	2.685	3.172
79	38	na	na	na	2.970	3.008	na
110	42	na	na	na	3.758	3.399	na
118	42	na	na	na	3.198	3.270	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
16	0.025	0.044	0.026	0.023	0.020	0.023
52	0.180	0.606	na	0.062	0.069	0.067
79	na	na	na	0.062	0.123	na
110	na	na	na	0.307	0.265	na
118	na	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	2.168	1.760	2.007	2.006	1.761	2.129
DATE	2.079	2.115	2.067	1.847	2.108	1.794
04/24/00	2.227	1.856	2.193	2.168	1.644	1.932
	2.117	1.696	1.772	2.104	1.638	2.036
STUDY DAY	1.988	1.968	1.876	2.238	1.841	1.830
16	2.195	1.732	1.966	1.892	1.697	1.427
	1.948	1.973	1.685	2.069	1.764	1.609
STAGE	1.729	1.988	1.985	2.111	1.693	1.958
21	2.203	1.845	2.041	1.511	2.035	1.808
	2.184	1.947	2.205	2.124	1.704	2.085
	1.971	1.838	2.055	2.164	2.355	2.283
	2.165	1.830	2.026	2.104	1.734	1.765
	2.095	1.941	1.829	1.950	1.393	1.658
	1.947	1.975	1.988	1.893	1.706	2.087
	2.198	2.248	1.971	1.973	1.946	1.694
	2.388	2.271	1.759	1.999	1.784	2.210
	2.384	2.056	2.000	1.864	1.949	2.029
	1.988	2.110	1.977	2.164	1.613	1.874
	2.146	2.099	2.026	1.977	1.707	2.018
	1.807	1.840	2.120	1.957	1.923	1.493
	1.898	1.710	1.920	1.783	1.922	1.718
	2.018	2.294	1.862	1.880	2.184	1.935
	2.179	1.965	1.938	1.973	1.642	1.613
	1.792	1.822	2.114	1.455	2.055	1.568
	1.956	2.239	2.030	2.166	1.611	2.088
	1.813	1.440	1.794	2.116	1.539	1.607
	2.009	2.514	1.835	2.214	1.450	2.369
	2.073		1.849	1.988	1.820	1.839
	1.927		2.070	1.922	1.988	1.908
	1.911		1.889	2.034	1.771	1.932
	1.882		2.061	2.111	1.797	1.720
	1.966		1.529	2.069	1.864	2.043
	1.800		2.135	1.754	1.938	2.027
	1.765		1.920	1.851	2.022	1.854
	2.007		1.973	1.845	1.934	2.243
	2.117		2.060	2.108	1.813	2.324
	1.983		1.595	2.206	1.811	2.036
	1.980		2.022	1.783	2.106	1.935
	1.921		2.224	1.830	1.598	2.126
	2.095		1.864	1.546	1.942	2.094
			1.827	1.694	1.665	1.934
			2.137	1.800	1.760	1.684
			1.571	1.418	1.771	2.048
			2.298	1.693	1.426	1.946
				2.242	2.018	2.067
				1.718	2.022	1.986
				1.765	2.166	1.515
				2.077	2.031	1.803
				1.946	1.911	1.813
				1.961	1.493	1.841
				1.862	1.988	1.977
				1.744	1.796	1.876
				2.305	1.926	1.876
				1.865	1.596	2.131

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
			1.917	1.915	1.713
			1.886	1.522	1.783
			2.128	1.971	1.807
			1.934	1.765	1.720
			1.887	1.794	2.032
			1.951	1.524	1.995
			2.347	1.649	2.168
			2.129	1.856	1.897
			1.730	1.556	1.838
			1.976	1.897	2.029
			1.863	2.004	1.777
			2.165	1.728	2.111
			1.845	1.449	2.152
			2.065	1.780	1.958
			1.951	1.837	1.780
			2.146	1.525	1.827
			1.586	1.862	2.003
			2.104	1.427	2.052
			2.300	1.727	2.019
			2.034	1.758	2.024
			1.818	1.597	
			1.499	1.740	
			1.385	1.484	
			1.812	1.503	
			2.129	1.822	
			1.586	1.686	
			1.468	1.579	
			1.938	1.750	
			1.595	1.874	
			1.898	1.516	
			1.785	1.858	
			2.374	1.576	
			1.830	1.703	
			1.625	1.757	
			1.848	1.711	
			1.634	1.850	
			1.886	1.951	
			2.098	1.696	
			2.092	1.537	
			1.298	1.659	
			1.907		
			1.626		
			2.153		

Individual Egg Mass Statistics

N	40	27	44	97	94	74
Mean	2.025	1.966	1.956	1.918	1.774	1.917
Var. (S^2)	0.025	0.051	0.029	0.051	0.037	0.039
SEM	0.025	0.044	0.026	0.023	0.020	0.023

Combined Egg Mass Statistics

Total N	6
Site Mean	1.926
Var. (S^2)	0.007
SEM	0.034

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	3.613	3.027	2.572	2.880	2.589	3.331
DATE	3.790	4.238		2.522	2.060	3.036
05/30/00	3.400			2.807	3.835	3.090
	3.098			2.345	4.085	3.229
STUDY DAY	3.517			2.935	3.027	
52	4.371			2.994	2.924	
	4.126			2.464	3.441	
STAGE	4.585			2.644	2.041	
32				3.122	3.371	
				2.900	2.730	
				2.674	2.551	
				3.121	2.710	
				2.800	2.253	
				3.184	3.699	
				2.478	2.701	
				3.728	3.296	
				2.684	2.846	
				2.889	2.126	
				3.902	3.541	
				3.672	3.207	
				3.536	2.429	
				3.186	2.631	
				1.896	2.515	
				3.250	3.200	
				2.010	2.535	
				2.404	1.778	
				2.693	3.204	
				2.608	2.667	
				2.596	2.583	
				2.894	3.109	
				2.293	3.099	
				2.510	2.832	
				2.099	2.783	
				2.459	1.725	
				3.003	3.012	
				2.594	2.442	
				3.086	2.667	
				2.611	2.470	
				2.291	2.394	
				2.570	2.805	
				1.963	2.259	
				2.152	2.167	
				2.335	2.253	
				2.466	2.313	
				2.382	2.783	
				3.206	2.459	
				2.981	1.849	
				2.940	3.014	
				2.532	2.093	
				2.018	2.152	
				2.047	2.880	
				2.510	2.931	
				2.690	2.437	
					2.107	
					2.034	
					2.703	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
Individual Egg Mass Statistics						
N	8	2	1	53	56	4
Mean	3.812	3.632	2.572	2.709	2.685	3.172
Var. (S ²)	0.259	0.734	na	0.204	0.265	0.018
SEM	0.180	0.606	na	0.062	0.069	0.067
Combined Egg Mass Statistics						
Total N	6					
Site Mean	3.097					
Var. (S ²)	0.280					
SEM	0.216					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				2.639	3.820	
06/26/00				2.611	2.574	
				3.547	3.041	
				2.941	2.783	
STUDY DAY				2.675	4.120	
79				3.031	2.140	
				3.471	3.404	
STAGE				2.452	2.802	
38				2.660	2.952	
				3.089	3.573	
				3.606	4.502	
				3.201	4.123	
				2.369	3.659	
				3.079	3.273	
				3.344	2.659	
				3.035	2.233	
				2.424	2.801	
				2.644	2.417	
				2.886	2.482	
				2.915	2.535	
				3.159	2.267	
				3.089	2.092	
				3.190	3.301	
				2.676	3.056	
				2.953	2.461	
				3.048	3.182	
				3.371	2.423	
				3.167	3.537	
				3.178		
				3.350		
				2.117		
				2.963		
				3.138		

Individual Egg Mass Statistics

N	0	0	0	33	28	0
Mean	na	na	na	2.970	3.008	na
Var. (S ²)	na	na	na	0.125	0.423	na
SEM	na	na	na	0.062	0.123	na

Combined Egg Mass Statistics

Total N	2
Site Mean	2.989
Var. (S ²)	0.001
SEM	0.019

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				3.451	3.379	
07/27/00				4.065	2.951	
					3.867	
STUDY DAY						
110						
STAGE						
42						

Individual Egg Mass Statistics

N	0	0	0	2	3	0
Mean	na	na	na	3.758	3.399	na
Var. (S ²)	na	na	na	0.189	0.210	na
SEM	na	na	na	0.307	0.265	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.578
Var. (S ²)	0.064
SEM	0.179

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				3.198	3.270	
08/04/00						
STUDY DAY						
118						
STAGE						
42						

Individual Egg Mass Statistics

N	0	0	0	1	1	0
Mean	na	na	na	3.198	3.270	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.234
Var. (S ²)	0.003
SEM	0.036

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)
 DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	25	1.819	1.810	1.950	2.052	2.992	1.862
42	29	4.327	3.008	2.446	2.453	2.177	2.597
80	40	na	na	3.329	3.318	na	3.488
101	39	na	na	3.500	4.011	na	3.968
143	39	na	na	3.417	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	0.028	0.026	0.017	0.038	na	0.022
42	na	0.149	0.037	0.065	na	0.099
80	na	na	0.090	0.083	na	0.102
101	na	na	0.121	0.281	na	0.222
143	na	na	0.673	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	1.721	1.904	1.523	2.145	2.992	2.229
DATE	2.000	2.033	1.908	2.134		1.824
04/20/00	1.671	1.878	1.911	1.786		2.336
	1.720	1.867	2.044	2.065		1.927
STUDY DAY	1.588	1.593	2.006	1.664		2.210
10	1.795	1.999	1.867	1.884		1.491
	1.779	2.290	1.914	1.831		2.117
STAGE	1.917	1.898	1.874	1.977		1.789
25	1.683	2.023	2.068	1.915		2.079
	1.818	2.140	2.271	1.965		2.011
	1.802	2.365	2.169	2.281		1.802
	1.676	1.880	1.646	2.304		1.993
	1.804	1.664	1.835	2.561		1.998
	1.804	1.710	1.894	2.073		2.007
	1.799	1.818	1.910	2.207		1.823
	1.492	1.456	1.885	2.003		1.607
	1.649	1.710	2.076	1.664		2.263
	1.757	1.611	2.036	1.977		1.807
	1.651	1.760	1.855	2.023		2.189
	1.621	1.572	1.963	1.878		2.135
	1.620	1.748	1.845	1.719		1.671
	1.654	1.575	1.770	1.520		2.006
	1.643	1.849	1.918	2.102		1.654
	1.393	1.925	1.908	2.269		2.337
	1.757	2.117	2.053	2.661		2.128
	1.131	2.195	1.835	2.775		1.701
	2.041	2.021	2.142	2.340		1.505
	1.848	2.015	1.816	1.886		1.436
	2.105	1.432	1.784	1.884		1.933
	1.674	1.606	2.033	1.555		1.869
	2.007	1.616	1.867	2.249		1.714
	1.879	2.143	1.994	1.928		1.647
	1.032	2.185	1.834	2.082		1.742
	1.740	2.038	1.965	2.019		1.835
	1.667	1.680	2.036	1.998		1.536
	1.809	2.294	2.161	2.002		1.632
	1.925	1.614	1.954	2.263		1.664
	1.661	1.361	2.009	2.120		1.779
	2.004	1.591	1.985	2.015		1.933
	1.594	1.518	2.305	1.977		1.664
	1.683	1.558	1.985	1.792		1.882
	1.595	1.500	1.654	1.863		1.971
	2.027	1.869	2.119	2.100		1.640
	1.611	2.004	1.613	2.494		1.671
	1.697	1.908	1.794	2.099		1.667
	1.898	1.505	1.928	1.886		1.998
	1.342	1.643	1.699	2.424		2.127
	1.824	2.122	1.908	2.132		1.886
	2.228	1.859	1.857			1.952
	1.425	1.888	2.093			1.643

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
1.776	1.609	2.162			1.824
1.968	1.668	1.879			2.113
2.413	1.879	2.107			1.933
1.945	1.891	1.926			1.606
2.162	2.183	2.063			1.634
1.813	1.700	2.009			1.735
1.760	1.909	1.952			1.964
1.907	1.497	2.214			1.819
1.849	1.728	2.252			1.725
2.071	1.450	2.031			1.789
2.133	1.840	1.863			1.869
1.926	1.634	1.908			1.873
2.102	1.640	1.714			1.933
2.051	1.854	1.948			1.963
2.093	1.943	1.918			1.937
2.252	1.938	1.693			2.145
1.831	1.773	1.846			1.668
1.938	1.669	2.068			2.030
1.802	2.015	1.671			1.823
1.649	1.507	1.908			1.522
1.928	1.678	2.229			1.894
2.094	1.873	1.885			1.857
1.891	1.757	1.841			1.614
1.933	1.878	2.076			2.189
2.071	1.727	1.864			1.790
2.019	1.794	1.928			1.934
2.140		2.091			1.591
2.233		2.194			1.751
1.949		2.128			1.606
2.532		1.938			1.857
2.015		2.157			2.051
1.749		2.038			1.640
1.758		2.242			1.841
1.295		1.701			1.816
1.303		2.021			1.515
		1.345			2.011
		2.143			1.721
		2.132			1.749
		1.857			2.147
		1.992			2.250
		1.669			2.321
		1.908			1.848
		1.908			1.744
		1.968			1.930
		2.184			1.867
		1.843			
		1.988			
		1.962			
		2.134			

Individual Egg Mass Statistics

N	85	76	99	48	1	95
Mean	1.819	1.810	1.950	2.052	2.992	1.862
Var. (S ²)	0.066	0.052	0.029	0.069	na	0.044
SEM	0.028	0.026	0.017	0.038	na	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.081
Var. (S ²)	0.208
SEM	0.186

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	4.327	4.117	2.375	2.769	2.177	2.952
DATE		4.168	2.443	1.784		2.438
05/22/00		3.829	2.776	2.383		2.248
		3.300	1.874	2.125		2.927
STUDY DAY		3.317	2.975	1.639		3.195
42		4.368	2.114	2.278		2.282
		4.175	2.491	2.618		2.212
STAGE		4.647	2.560	2.758		1.215
29		1.934	3.120	2.555		1.857
		1.941	2.813	2.182		3.348
		2.855	2.584	2.239		3.028
		2.764	2.472	2.282		3.572
		3.202	2.002	2.268		1.761
		3.666	2.224	2.225		2.985
		2.797	1.990	2.410		2.439
		3.210	2.586	2.986		2.655
		2.759	2.171	2.402		3.050
		3.148	2.731	2.869		3.000
		2.662	2.175	2.879		3.728
		2.512	2.931	2.844		3.558
		2.666	2.554	3.184		3.993
		2.499	2.269	2.083		4.148
		2.341	2.510	2.098		2.659
		2.961	2.639	3.253		2.406
		1.870	2.632	2.773		3.028
		1.701	2.700	2.487		2.640
		2.200	2.570	2.392		3.212
		3.450	2.268	2.501		1.993
		2.157	2.193	2.353		2.932
			2.305	2.314		2.347
			2.289	1.712		2.862
			2.607	2.512		1.664
			2.780	2.421		2.526
			1.732	2.810		1.588
			1.610			1.733
			2.353			3.285
			2.137			1.951
			1.780			2.466
			2.254			2.058
			2.438			2.541
			2.075			1.951
			2.375			1.674
			2.568			2.953
			2.087			1.882
			2.587			1.886
			2.999			2.635
			2.779			
			2.897			
			2.258			
			2.462			

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
		2.466			
		2.574			
		2.961			
		2.152			
		1.973			
		1.899			
		2.230			
		2.252			
		2.203			
		2.639			
		2.038			
		2.946			
		2.628			
		2.219			
		1.931			
		2.145			
		2.181			
		2.996			
		2.725			
		2.558			
		2.783			
		2.870			
		2.421			
		3.136			
		2.504			
		2.460			
		2.890			
		2.752			
		3.170			
		2.626			
		2.607			
		2.267			
		2.018			
		2.255			
		2.359			

Individual Egg Mass Statistics

N	1	29	85	34	1	46
Mean	4.327	3.008	2.446	2.453	2.177	2.597
Var. (S ²)	na	0.647	0.118	0.145	na	0.454
SEM	na	0.149	0.037	0.065	na	0.099

Combined Egg Mass Statistics

Total N	6
Site Mean	2.835
Var. (S ²)	0.608
SEM	0.318

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			4.116	4.517		2.744
06/29/00			2.936	3.553		3.739
			3.505	3.532		3.029
			2.715	3.475		3.460
STUDY DAY			3.230	3.427		3.804
80			3.222	3.916		3.309
			1.507	3.845		2.601
STAGE			3.357	3.335		3.536
40			3.677	3.202		3.096
			2.929	2.845		3.337
			3.072	3.170		3.400
			3.840	3.170		3.510
			3.975	3.041		4.575
			3.823	3.334		3.899
			4.229	3.037		3.761
			3.450	3.051		2.616
			2.778	2.743		3.562
			2.867	3.159		3.345
			2.788	3.131		4.076
			3.987	3.161		3.597
			1.619	3.026		3.920
			3.748	3.321		3.826
			4.587			1 larvae missing from count
			4.304			
			3.687			
			3.253			
			3.230			
			2.101			
			3.546			
			3.115			
			2.975			
			4.014			
			3.283			
			3.637			
			2.126			
			2.397			
			2.987			
			3.215			
			3.599			
			3.470			
			3.455			
			2.904			
			3.924			
			3.969			
			3.556			
			3.787			
			4.041			
			2.734			
			2.824			
			4.046			
			3.789			
			3.182			
<hr/>						
Individual Egg Mass Statistics						
N	0	0	52	22	0	22
Mean	na	na	3.329	3.318	na	3.488
Var. (S ²)	na	na	0.423	0.153	na	0.229
SEM	na	na	0.090	0.083	na	0.102
 Combined Egg Mass Statistics						
Total N	3					
Site Mean	3.378					
Var. (S ²)	0.009					
SEM	0.055					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			3.195	4.537		4.257
07/20/00			2.879	3.994		4.399
			2.591	4.371		3.457
			3.789	2.294		4.634
STUDY DAY			3.816	4.150		3.781
101			3.324	3.856		3.279
			3.418	3.872		1 larvae missing
STAGE			3.352	5.016		from count
39			3.564			
			3.935			
			3.127			
			4.025			
			3.689			
			4.380			
			4.399			
			3.489			
			2.669			
			3.368			

Individual Egg Mass Statistics

N	0	0	18	8	0	6
Mean	na	na	3.500	4.011	na	3.968
Var. (S ²)	na	na	0.264	0.632	na	0.297
SEM	na	na	0.121	0.281	na	0.222

Combined Egg Mass Statistics

Total N	3
Site Mean	3.827
Var. (S ²)	0.080
SEM	0.164

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
21	22	2.053	2.139	2.180	2.139	2.055	2.186
36	25	2.699	2.627	2.629	2.577	2.388	2.443
57	25	3.212	2.961	3.058	3.003	2.753	2.956
105	32	5.202	na	na	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
21	0.030	0.029	0.031	0.030	0.025	0.026
36	0.040	0.032	0.036	0.036	0.028	0.043
57	0.038	0.050	0.043	0.052	0.041	0.043
105	na	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.368	1.928	1.756	1.894	1.825	1.832
DATE	1.775	2.289	2.349	1.992	2.216	2.171
04/27/00	1.812	2.508	2.325	2.612	1.343	1.952
	1.881	2.717	1.839	2.031	2.146	2.051
STUDY DAY	1.712	2.563	2.417	2.300	2.174	1.833
21	2.392	2.200	1.539	2.117	2.166	2.368
	2.219	2.500	1.612	2.005	2.114	2.108
STAGE	2.021	2.464	2.037	2.337	2.027	2.069
22	1.933	2.302	2.476	2.259	1.698	1.585
	1.769	2.126	2.440	2.011	1.691	2.156
	2.783	2.277	1.659	2.190	1.884	2.139
	1.934	2.224	1.828	2.314	1.924	1.724
	2.375	1.879	2.391	2.234	1.766	1.953
	2.287	2.828	2.351	1.691	1.913	1.980
	1.837	2.207	2.683	1.959	1.561	1.706
	1.664	2.000	2.269	2.430	1.825	1.766
	1.669	2.552	2.347	1.863	2.219	2.087
	2.177	2.302	2.158	2.088	1.934	2.103
	1.775	2.007	1.523	2.150	1.793	2.254
	1.917	2.103	2.099	2.234	2.200	2.171
	1.908	1.886	1.881	2.297	2.184	2.205
	1.616	2.036	1.866	1.912	1.712	2.037
	1.683	2.727	2.350	2.415	1.428	1.794
	2.036	2.268	1.985	2.062	1.917	2.311
	2.040	2.311	1.682	2.280	2.318	2.107
	2.320	1.952	2.156	2.018	2.084	2.455
	1.765	1.963	2.469	2.660	1.833	2.705
	2.156	1.989	2.199	2.245	1.712	1.793
	2.007	2.221	2.141	1.876	1.465	2.329
	1.947	2.133	1.473	2.217	2.249	2.030
	2.114	2.132	2.450	2.138	2.347	2.311
	1.772	2.099	2.273	2.091	2.152	2.210
	1.996	2.812	1.828	2.577	1.585	1.946
	1.647	2.000	1.999	2.467	1.957	1.664
	1.796	2.043	2.317	2.687	1.673	2.200
	2.242	1.799	2.293	1.934	2.203	2.335
	2.254	1.974	2.259	2.735	2.220	2.353
	2.692	2.104	1.772	2.279	1.732	2.200
	1.690	1.788	2.392	1.682	2.125	2.223
ual Egg Mass St	2.420	2.148	2.575	2.468	2.181	2.401
	1.667	2.236	2.345	2.084	2.074	1.899
	2.041	1.934	2.750	1.550	2.045	2.042
	2.483	1.678	2.530	2.171	1.960	2.095
	1.664	2.148	2.329	1.780	1.924	2.534
	2.421	2.015	2.406	2.057	1.715	2.009
	2.422	1.929	2.464	2.056	2.160	2.306
	2.237	1.452	1.727	2.388	1.993	2.041
	1.915	1.990	2.191	2.025	1.909	2.577
	1.829	2.208	2.355	2.050	1.881	2.269
	2.464	2.114	2.438	2.306	2.181	1.979
	2.366	2.225	2.517	2.259	2.468	2.317
	2.187	1.957	2.690	2.332	1.966	1.928
	2.341	2.021	2.214	2.450	2.300	1.767
	2.191	2.067	2.032	2.305	1.999	1.966

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05	
1.902	1.979	2.415	2.472	2.439	2.021	
2.375	1.607	2.011	1.751	2.190	2.197	
1.820	1.624	2.551	2.048	2.011	2.241	
1.586	1.961	2.361	2.733	1.944	1.980	
1.998	1.786	2.139	2.308	2.000	2.000	
2.659	2.138	2.286	1.484	2.041	2.223	
2.174	2.220	2.062	1.730	1.875	2.472	
2.005	1.877	1.966	1.934	1.659	2.459	
2.248	2.685	2.073	1.917	1.908	2.444	
1.881	2.553	2.462	2.142	2.404	2.230	
2.114	2.001	2.220	2.310	2.133	1.882	
2.417	2.320	2.142	1.884	2.399	1.951	
1.609	2.414	2.184	2.066	2.490	2.290	
1.899	2.745	2.351	2.563	2.320	2.269	
1.894	2.246	1.397	2.160	1.990	2.220	
1.390	2.212	2.021	2.245	2.502	2.345	
2.362	1.996	2.009	1.956	2.302	2.083	
1.627	1.280	2.430	1.949	2.387	2.415	
1.691	2.399	2.902	2.007	2.248	2.421	
1.759	2.049	2.241	2.293	2.138	2.263	
1.930	1.727	2.098	1.592	1.979	2.728	
2.076	2.038	1.690	1.829	2.105	2.173	
2.366	2.252	2.171	2.099	2.209	2.640	
2.029	2.140	2.011	1.473	1.898	2.229	
2.115	2.053	1.684	2.268	2.283	2.144	
2.661	2.036	2.035	2.042	2.145	2.415	
2.268	2.812	2.401	2.228	1.758	2.241	
2.123	2.460	2.001	1.587	2.211	2.221	
1.879	1.936	1.992	2.637	2.477	2.005	
1.655	2.236	2.446	2.151	2.438	2.224	
2.305	2.438	2.117	2.036	2.062	2.175	
1.691	2.085	2.502	1.777	2.426	2.375	
2.248	2.028	2.738	1.860	2.314	2.223	
1.848	2.066	2.293	2.435	2.050	1.848	
2.191	2.041	2.443	2.073	1.890	2.200	
2.005	2.069	2.331	2.488	2.205	2.672	
2.241	2.409	2.497	2.563	2.327	2.830	
2.386	2.045	1.904		2.327	2.761	
2.349	1.992	1.856		2.237	2.414	
1.621	1.975	2.401		1.980	2.619	
2.592	2.311	1.976		2.108	2.561	
2.028	2.127	2.144		2.442	2.438	
2.341	1.817	2.139		1.870		
2.404		2.049		2.248		
1.979				2.036		
1.914				2.000		
<hr/>						
Individual Egg Mass Statistics						
N	100	97	98	91	100	96
Mean	2.053	2.139	2.180	2.139	2.055	2.186
Var. (S ²)	0.088	0.081	0.092	0.081	0.064	0.066
SEM	0.030	0.029	0.031	0.030	0.025	0.026
<hr/>						
Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.125					
Var. (S ²)	0.003					
SEM	0.024					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.425	2.925	2.105	2.668	2.464	2.268
DATE	2.833	2.250	2.133	2.401	2.415	2.113
05/12/00	2.125	3.112	2.502	2.994	2.192	2.256
	3.207	3.116	2.738	2.705	2.695	1.706
STUDY DAY	2.910	2.795	2.290	2.164	2.409	1.761
36	2.184	3.020	2.790	3.003	1.963	2.305
	3.088	3.019	2.779	2.858	1.974	2.278
STAGE	2.290	2.921	3.039	3.033	2.392	2.541
25	2.171	2.841	2.452	2.877	2.145	2.245
	3.157	2.662	2.497	2.354	2.865	1.941
	3.407	2.911	2.421	2.191	2.773	2.293
	3.195	2.792	2.237	2.401	2.139	2.552
	2.810	2.923	1.865	2.594	1.881	2.719
	2.536	2.454	3.053	2.150	2.472	1.966
	2.439	2.478	2.870	2.994	2.132	2.523
	2.454	2.439	2.510	2.009	2.204	2.780
	2.614	2.531	2.760	2.160	2.690	1.691
	2.269	2.897	2.654	2.657	2.468	2.622
	3.104	2.917	2.835	3.597	1.961	2.560
	3.053	2.563	3.405	2.323	2.655	2.693
	2.446	2.182	2.592	2.497	2.538	2.323
	3.091	3.183	2.459	2.460	2.605	1.703
	2.593	2.392	2.824	1.870	2.443	2.246
	2.950	2.693	2.777	2.271	2.426	1.833
	2.354	2.792	1.867	2.931	2.752	2.298
	2.825	2.727	2.783	2.104	2.645	2.766
	3.042	2.766	2.591	2.464	2.105	2.305
	2.329	2.586	2.587	2.807	2.491	1.807
	2.897	2.637	3.348	2.731	2.137	2.726
	3.179	2.776	2.153	2.798	1.828	2.663
	3.020	2.053	2.594	3.003	2.745	2.643
	2.121	2.838	2.721	2.952	2.454	2.336
	2.738	2.489	2.726	3.078	2.097	2.860
	2.934	2.483	2.967	2.897	2.497	2.072
	2.761	2.382	2.541	3.088	2.484	2.602
	2.705	2.498	2.334	2.343	2.426	3.454
	3.097	2.293	2.095	3.104	2.382	2.349
	3.155	2.392	2.650	2.392	2.125	2.181
	3.146	3.107	2.967	2.707	2.576	2.777
ual Egg Mass St	2.609	3.345	2.625	2.318	2.762	2.574
	3.093	2.703	2.623	2.282	2.590	3.304
	2.747	2.042	2.761	2.653	2.005	2.517
	2.777	2.867	2.545	2.705	2.793	3.250
	2.902	3.035	2.489	2.628	2.728	2.386
	2.728	2.926	2.761	2.797	2.435	1.590
	2.946	2.182	2.566	2.858	2.494	2.350
	2.652	2.449	1.820	2.567	2.907	2.277
	2.994	2.435	2.164	3.534	2.397	2.686
	2.236	2.631	2.601	2.362	2.444	2.752
	2.063	2.684	2.763	2.466	2.537	2.761
	2.902	2.755	2.759	2.643	2.847	2.769
	2.506	3.011	3.043	2.395	2.661	2.259
	2.844	2.659	2.828	2.429	2.484	2.271
	3.064	2.822	2.426	2.101	2.466	2.854

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.221	2.526	2.950	2.406	2.579	2.600
	2.432	2.354	2.437	2.566	2.567	2.042
	2.483	2.537	2.666	2.498	2.028	3.242
	1.564	2.380	2.401	2.462	2.133	2.512
	3.324	2.637	2.425	2.655	2.181	2.224
	2.468	2.857	2.901	2.634	2.748	1.902
	3.233	2.353	2.931	2.708	2.544	2.140
	2.371	2.609	3.131	2.050	2.267	2.656
	2.805	3.253	3.432	2.442	1.866	2.770
	2.208	2.519	2.966	2.495	2.395	1.924
	2.359	2.421	2.417	2.863	2.236	2.338
	3.016	2.735	2.410	2.900	3.058	2.814
	3.057	2.248	2.695	2.584	2.208	2.105
	3.055	2.076	2.999	2.257	2.716	2.889
	2.639	2.875	2.401	2.700	2.450	3.146
	2.875	2.695	2.888	2.190	2.857	2.018
	2.080	3.266	2.459	2.650	2.825	2.654
	2.792	2.214	2.870	1.799	2.153	2.824
	2.975	1.980	3.023	2.584	2.745	2.510
	3.003	2.038	2.984	2.641	2.372	2.640
	2.677	2.844	3.121	2.241	2.160	2.130
	3.319	2.056	3.143	2.276	2.459	2.250
	2.819	2.121	3.078	2.236	2.166	2.637
	2.733	2.252	2.829	3.030	2.098	2.469
	2.708	2.442	2.592	2.828	2.536	2.727
	2.028	2.966	2.244	2.425	2.249	2.867
	2.541	2.767	2.733	2.446	2.634	2.125
	2.045	2.545	2.890	2.443	2.099	2.469
	2.297	2.223	2.844	2.687	2.487	2.690
	2.459	2.596	2.238	2.392	2.386	2.200
	2.895	2.760	2.145		2.510	3.112
	2.852	2.971	1.788		1.862	3.219
	2.258	2.670	3.239		2.337	1.506
	2.623	2.273	1.863		2.024	2.277
	2.874	2.870	2.357		2.145	2.069
	2.269	2.274	2.585		2.387	2.841
	2.774	2.452	2.289		2.353	
	2.380	2.359	2.554		1.939	
	1.464	2.576	1.963		2.410	
	2.485	2.364	2.274		2.585	
	2.894	2.871	2.928		2.133	
	2.318	2.887	3.072		2.257	
	3.439	2.728	2.546		1.607	
					2.147	
					2.392	
					2.294	
<hr/>						
Individual Egg Mass Statistics						
N	97	97	97	84	100	90
Mean	2.699	2.627	2.629	2.577	2.388	2.443
Var. (S ²)	0.157	0.097	0.127	0.112	0.079	0.165
SEM	0.040	0.032	0.036	0.036	0.028	0.043
 Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.560					
Var. (S ²)	0.014					
SEM	0.049					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.703	2.785	3.208	2.267	2.705	3.131
DATE	3.182	3.369	3.538	3.171	3.104	3.450
06/02/00	3.442	3.314	3.438	3.345	3.366	2.857
	3.282	3.590	3.007	3.902	2.804	2.773
STUDY DAY	3.657	2.656	3.145	2.327	3.138	3.179
57	2.489	2.246	3.043	3.325	2.318	2.469
	3.256	3.242	3.183	2.823	3.339	2.964
STAGE	3.011	2.384	3.623	2.837	2.585	2.469
25	2.999	3.171	3.291	3.174	2.630	3.131
	3.307	2.563	3.950	3.657	2.606	2.668
	3.394	3.016	3.621	3.349	3.254	2.464
	3.464	2.994	3.253	3.223	2.677	2.529
	3.679	3.488	3.309	2.585	2.259	2.464
	3.250	2.986	3.634	2.541	2.544	2.950
	3.179	2.691	3.476	3.501	3.028	2.758
	4.025	3.555	3.108	2.705	2.804	3.658
	3.162	3.386	3.311	3.214	2.343	2.835
	3.247	2.724	2.835	3.675	2.498	3.483
	3.146	3.000	2.743	4.517	2.607	2.946
	2.967	3.390	3.078	3.584	2.420	3.336
	3.140	2.459	2.764	3.315	2.919	2.391
	3.501	2.391	3.254	2.712	2.790	2.684
	3.112	3.532	3.521	3.282	2.468	3.324
	3.623	2.690	3.280	3.548	2.050	3.468
	2.695	3.156	2.427	3.663	2.648	2.768
	3.199	2.421	3.307	2.567	2.415	2.738
	3.713	2.551	3.003	3.975	2.378	1.966
	2.795	2.559	2.915	2.357	2.937	2.914
	3.005	3.917	3.152	3.130	2.002	3.186
	3.116	2.926	2.495	3.523	2.050	3.028
	3.463	2.657	2.560	2.380	2.250	2.966
	3.080	2.741	2.738	2.847	2.860	3.700
	3.657	3.074	2.819	3.311	2.695	2.870
	3.300	2.777	3.131	2.491	2.971	2.566
	2.927	3.496	2.506	2.951	2.902	3.387
	3.072	3.593	3.057	3.294	2.951	2.554
	3.396	3.209	3.552	3.239	2.861	3.219
	3.256	3.337	2.761	3.638	3.379	2.928
	2.852	3.280	3.328	2.491	2.610	2.915
ual Egg Mass St	3.157	3.104	2.951	2.531	2.683	2.853
	3.384	2.586	3.311	3.300	2.840	2.667
	3.219	3.438	3.179	2.804	2.623	2.882
	3.074	3.170	2.781	2.637	2.773	3.209
	3.948	3.389	2.868	2.454	2.469	4.058
	3.293	3.302	2.695	2.805	2.771	2.382
	3.101	3.119	2.668	3.516	2.875	2.801
	3.626	3.056	3.220	2.449	3.390	3.016
	3.034	3.538	3.200	3.217	3.173	3.131
	2.731	3.810	2.748	3.542	2.108	2.160
	2.191	2.792	2.678	3.028	3.175	2.835
	3.228	2.920	3.647	2.459	3.211	3.300
	3.422	2.523	3.083	2.211	4.030	2.669
	3.459	2.629	3.747	2.712	2.767	2.829
	3.263	3.300	3.179	2.809	2.752	2.927

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.975	3.312	3.300	3.007	1.974	2.536
2.982	2.823	3.767	2.628	3.451	2.853
2.817	3.835	2.016	2.486	3.228	3.150
2.472	3.035	3.276	2.783	2.786	3.388
3.045	4.081	3.401	2.489	3.152	3.801
2.731	3.061	3.815	3.073	4.003	3.273
2.785	4.349	2.596	2.388	3.468	2.975
3.290	2.923	3.333	3.432	3.131	2.841
3.584	2.347	3.503	3.498	2.862	3.252
3.576	2.432	3.225	4.032	2.832	3.060
2.401	3.831	3.887	2.962	3.053	3.102
3.131	2.964	3.022	3.436	3.183	3.291
3.141	2.837	3.521	2.921	2.835	2.927
2.563	3.242	2.982	2.689	2.690	3.140
2.897	2.084	2.792	2.492	2.597	2.705
3.277	2.477	3.810	3.170	2.828	2.790
3.422	2.746	3.302	3.123	3.041	3.242
3.273	2.727	2.833	2.828	3.053	4.048
3.039	2.781	2.687	2.423	2.380	2.692
2.709	2.241	2.170	3.002	2.755	3.071
3.102	2.798	2.653	2.942	2.622	2.563
3.578	2.831	2.814	3.085	2.645	3.588
3.849	2.139	2.652	2.921	2.257	3.212
3.487	2.434	3.108	2.820	2.853	2.575
2.946	2.341	2.411	2.392	2.300	3.738
3.279	3.216	3.554	2.555	2.609	3.005
2.609	2.823	2.907	2.650	2.752	2.504
3.517	2.394	2.171	2.892	2.192	2.237
3.228	3.422	2.477	3.255	2.691	2.184
2.581	3.479	3.112		2.892	2.555
3.538	2.320	2.504		2.756	2.921
4.159	2.764	2.994		2.366	2.904
3.781	2.606	3.214		2.146	2.464
3.829	2.683	2.469		2.504	3.555
3.794	2.748	2.795		2.053	3.104
3.185	3.131	2.401		2.192	
3.522	1.894	3.097		3.316	
3.208	2.255	2.241		2.861	
3.464		3.260		2.244	
2.946		2.566		2.761	
3.458		3.505		2.861	
3.212				2.214	
2.293				2.814	

Individual Egg Mass Statistics

	97	92	95	83	97	89
N	97	92	95	83	97	89
Mean	3.212	2.961	3.058	3.003	2.753	2.956
Var. (S ²)	0.143	0.230	0.177	0.221	0.163	0.167
SEM	0.038	0.050	0.043	0.052	0.041	0.043

Combined Egg Mass Statistics

N	6
Site Mean	2.990
Var. (S ²)	0.022
SEM	0.061

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	5.202					
07/20/00						
STUDY DAY						
105						
STAGE						
32						

Individual Egg Mass Statistics						
N	1	0	0	0	0	0
Mean	5.202	na	na	na	na	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na
Combined Egg Mass Statistics						
Total N	1					
Site Mean	5.202					
Var. (S ²)	na					
SEM	na					

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
15	23	2.220	2.129	2.171	2.012	2.237	2.062
42	26	2.686	2.746	2.593	2.632	2.633	2.401
80	35	na	3.471	3.143	3.345	3.425	3.129
101	41	na	3.399	3.252	3.496	4.093	3.590
133	34	na	na	3.841	3.658	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
15	0.026	0.025	0.023	0.023	0.025	0.022
42	0.036	0.037	0.038	0.037	0.037	0.036
80	na	0.053	0.086	0.092	0.081	0.107
101	na	na	0.105	0.100	0.232	0.256
133	na	na	0.087	0.273	na	na

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE	2.172	1.909	2.180	1.595	2.047	2.296
04/25/00	1.753	1.821	2.429	2.053	1.889	1.824
	2.550	1.961	2.374	2.248	1.679	2.061
	2.433	2.215	1.934	1.742	2.002	1.768
STUDY DAY	2.352	2.493	2.189	2.179	2.130	1.646
15	2.201	2.370	2.431	2.005	1.819	1.794
	1.621	2.430	2.179	1.643	2.313	1.981
STAGE	2.374	2.144	1.945	1.492	2.124	2.158
23	2.495	1.871	2.016	1.992	2.474	1.909
	2.627	2.477	1.751	1.709	2.150	1.694
	2.397	1.807	2.090	1.541	2.151	1.797
	2.148	2.179	2.441	1.499	2.536	1.764
	2.282	1.953	2.243	1.617	2.408	1.814
	2.243	1.777	2.340	1.672	2.317	2.014
	2.182	1.701	1.937	1.745	2.299	2.124
	1.850	2.156	2.227	1.901	2.013	1.967
	2.667	1.811	2.250	2.018	2.269	2.002
	2.467	2.433	2.451	2.265	2.110	1.967
	2.358	1.886	2.429	2.112	1.806	2.047
	2.341	2.321	1.999	1.880	1.877	2.335
	2.224	2.545	2.284	2.022	2.227	2.027
	2.227	2.665	2.211	2.235	2.088	2.003
	2.284	2.326	1.990	1.783	2.587	2.186
	2.167	2.073	2.249	2.112	2.344	2.271
	2.327	2.388	2.286	2.069	2.697	1.925
	2.183	1.991	2.058	2.027	1.968	2.265
	2.287	2.001	1.773	1.853	1.776	2.149
	2.645	1.896	2.137	2.056	1.955	2.318
	2.354	1.933	2.193	2.020	1.914	2.313
	2.071	1.893	2.093	1.910	2.219	1.942
	2.506	2.501	2.631	1.820	2.600	2.047
	2.450	2.189	2.321	1.950	2.480	2.080
	2.288	2.679	2.255	1.972	2.237	2.020
	1.848	2.189	2.627	2.166	2.233	2.150
	2.367	2.208	2.237	2.061	2.425	2.275
	2.124	2.298	2.278	1.999	2.609	2.255
	2.393	2.169	1.898	1.898	2.158	2.371
	2.519	2.047	2.316	2.036	2.096	1.966
	1.909	2.044	2.262	1.965	1.946	2.078
	2.228	1.886	2.071	2.056	1.972	1.918
	2.508	1.825	1.325	2.062	2.421	2.328
	2.508	1.970	1.585	1.579	2.574	1.756
	2.397	2.112	2.259	2.078	2.802	2.181
	2.396	2.028	1.857	2.146	2.382	2.408
	2.269	1.856	2.278	1.567	2.726	2.354
	2.610	1.866	1.786	2.011	2.286	2.417
	2.572	2.044	2.270	1.889	2.410	2.250
	2.257	1.965	2.108	1.945	2.634	2.497
	2.453	2.064	2.621	2.204	2.208	2.129
	2.755	2.278	2.543	1.999	2.380	1.839
	2.073	1.683	2.122	1.763	2.364	2.331
	2.324	2.076	2.136	2.242	2.279	1.891
	1.519	2.356	2.167	2.415	2.126	1.937
	1.728	2.008	1.717	2.086	2.429	2.149
	2.053	1.445	2.337	1.996	2.326	1.988

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
1.860	2.375	2.316	1.724	2.079	2.195
1.934	2.046	2.585	1.679	1.984	2.446
2.350	2.011	2.579	1.807	2.321	2.332
2.013	1.984	1.990	1.920	2.395	2.122
2.096	2.011	2.061	1.909	2.227	1.803
2.374	1.894	2.425	2.221	2.236	2.135
2.349	2.256	2.150	1.593	2.576	2.388
2.487	1.976	2.481	2.125	2.130	2.143
2.107	2.428	2.126	2.011	2.415	2.105
1.709	2.228	2.480	2.061	2.122	2.273
2.204	2.284	2.154	2.255	2.344	1.906
2.126	2.237	1.901	2.101	1.828	1.496
1.996	2.169	2.193	2.445	1.941	1.981
1.844	2.101	2.249	2.487	1.940	2.189
2.045	1.856	2.219	2.316	2.039	1.836
2.082	1.933	2.242	2.146	2.822	2.069
2.218	1.789	2.056	1.988	2.200	2.223
2.427	2.110	2.384	2.093	2.466	2.429
1.869	2.110	2.131	2.146	2.237	2.354
2.286	2.361	2.348	2.104	2.761	2.073
1.742	2.317	2.072	2.219	2.249	1.914
2.102	2.397	2.270	2.172	2.221	2.157
2.324	2.116	1.679	2.003	2.463	2.058
2.271	2.508	2.260	2.011	2.143	2.116
2.131	2.471	2.011	1.507	2.036	2.375
2.275	2.093	2.425	2.200	2.475	2.251
2.029	2.193	2.429	1.968	2.193	2.079
2.090	2.197	2.095	2.123	2.215	2.249
1.922	2.288	2.036	2.122	2.379	1.805
2.221	2.445	2.384	2.046	1.961	1.709
2.237	2.580	2.183	2.556	2.410	1.943
2.309	2.209	1.923	1.909	2.143	1.956
2.415	2.096	1.967	2.144	1.976	1.751
2.110	2.429	2.174	2.308	2.080	2.308
1.991	1.945	1.753	1.958	2.415	1.756
2.286	2.429	2.296	2.227	2.198	2.036
2.286	2.036	1.945	2.179	2.038	1.981
2.143	2.174	1.917	2.306	2.044	1.663
1.502	2.270	2.243	1.992	2.072	2.116
2.654	2.445	2.209	2.296	2.460	1.920
1.863	2.221	2.124	2.395		1.970
2.384	1.917	2.313	2.426		1.871
2.375	2.262	1.937	2.137		1.901
2.357	1.345	1.965	1.980		1.599
		2.273			2.268

Individual Egg Mass Statistics

N	99	100	99	95	100
Mean	2.220	2.129	2.171	2.237	2.062
Var. (S ²)	0.066	0.063	0.055	0.060	0.047
SEM	0.026	0.025	0.023	0.025	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.138
Var. (S ²)	0.008
SEM	0.036

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	2.720	2.181	2.772	2.735	2.555	1.769
DATE	2.801	3.172	2.622	2.468	2.125	1.657
05/22/00	2.357	2.716	2.845	3.254	2.368	1.684
	2.779	2.677	1.558	3.028	2.793	2.592
STUDY DAY	2.981	2.520	2.517	3.147	2.652	2.069
42	2.689	2.300	2.560	2.946	2.331	1.882
	1.895	2.643	3.219	2.819	2.608	2.499
STAGE	2.647	2.946	2.817	2.626	2.182	2.602
26	2.208	2.966	2.519	3.053	2.607	2.245
	2.088	2.779	2.637	2.036	3.071	2.383
	2.567	2.297	2.659	2.930	3.003	1.878
	2.155	2.750	3.415	3.194	2.050	1.616
	2.924	2.699	2.698	2.678	2.380	2.986
	2.349	3.025	2.280	2.937	2.297	2.708
	2.711	2.795	2.357	2.580	2.526	2.841
	2.386	2.494	2.408	2.421	2.297	2.491
	2.654	2.600	3.100	3.491	3.028	2.170
	2.619	2.311	3.179	2.872	2.667	1.956
	2.672	2.661	2.492	2.282	2.521	2.484
	2.368	3.254	2.103	2.761	2.705	2.343
	2.576	2.986	2.679	2.931	2.225	2.371
	2.920	2.957	2.868	2.951	2.944	2.353
	2.508	2.208	2.353	2.462	2.768	2.435
	3.254	2.306	2.459	2.989	3.024	2.668
	3.010	2.443	3.024	2.777	2.632	1.931
	3.132	2.913	2.351	2.178	2.177	2.570
	2.802	2.980	2.051	2.877	2.441	2.152
	3.213	2.639	2.553	2.904	3.188	2.988
	2.961	2.776	2.601	2.388	2.640	2.477
	2.980	2.587	2.637	2.766	2.305	2.208
	2.814	3.070	2.777	2.148	2.469	2.406
	2.708	2.553	3.304	2.211	3.318	2.786
	2.178	3.067	2.589	3.640	2.844	2.761
	2.862	2.953	2.486	3.039	2.715	1.704
	3.057	2.585	2.698	2.699	2.656	1.913
	3.271	2.652	2.670	2.069	3.221	2.485
	1.854	2.760	2.850	2.297	2.628	2.639
	2.408	2.585	3.207	2.973	2.825	2.422
	2.341	2.246	2.671	2.499	2.875	3.104
	2.520	3.111	2.669	2.789	2.469	2.684
	2.854	2.652	2.148	2.837	2.350	2.994
	2.854	2.678	2.698	2.030	2.892	2.076
	2.852	2.452	2.653	2.466	3.079	2.502
	2.862	2.411	1.974	2.849	2.228	2.497
	2.805	2.716	2.580	2.466	2.128	2.581
	3.560	2.695	2.111	2.986	3.005	2.828
	2.286	1.956	2.622	2.083	2.221	2.211
	2.865	3.078	2.630	3.146	2.126	2.726
	2.643	2.755	2.464	3.131	2.877	2.841
	3.199	2.659	2.591	2.756	3.408	2.682
	2.934	2.609	2.146	2.872	2.494	2.862
	2.807	3.439	2.652	2.804	2.394	2.741
	3.023	2.999	2.174	2.197	2.932	2.780
	3.102	2.858	2.780	2.661	3.316	2.464
	1.930	3.115	2.574	3.225	2.437	2.203

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
2.426	2.881	2.631	2.959	2.733	2.221
2.898	2.437	2.141	2.365	2.622	2.560
2.829	1.989	2.075	2.934	3.145	1.698
3.076	2.753	2.204	2.536	2.628	2.133
2.764	2.536	2.117	2.665	3.401	2.201
3.483	3.161	2.317	2.667	2.214	2.695
2.223	2.275	2.256	2.521	2.510	2.393
3.242	2.366	1.780	2.807	2.986	2.181
2.994	2.804	2.709	2.805	2.670	2.797
2.904	2.761	2.392	2.487	2.221	2.797
2.716	2.502	2.543	1.992	2.942	2.175
3.027	2.904	2.208	1.638	2.955	2.342
2.380	2.915	2.606	2.717	2.426	2.263
2.645	3.564	2.526	2.766	2.584	2.193
2.725	2.949	2.835	3.177	2.698	2.208
2.661	3.042	2.434	2.789	2.854	2.107
2.625	2.638	2.580	2.672	2.879	1.990
2.495	1.993	2.205	2.043	3.319	2.626
3.073	2.434	2.498	2.596	2.058	2.828
2.946	2.388	3.043	2.553	2.323	2.038
2.353	3.146	3.740	2.341	2.268	2.449
2.069	3.501	2.839	2.285	1.590	1.650
2.216	3.531	3.523	2.454	2.930	1.907
2.677	3.032	2.462	2.626	2.203	2.657
2.306	3.071	3.016	1.951	2.349	2.200
2.441	2.442	3.050	2.156	2.768	2.354
2.386	3.424	2.626	2.212	2.703	2.849
2.862	3.494	2.519	2.549	3.011	2.544
2.761	2.388	2.819	2.773	2.484	2.085
2.908	3.147	2.743	2.091	2.399	2.975
3.131	2.726	2.351	2.200	2.899	2.104
2.325	2.931	2.962	2.234	3.185	2.810
2.384	2.597	2.724	2.656	3.173	2.498
2.236	2.692	3.053	2.668	2.011	2.568
2.661	3.107	2.347	2.468	2.226	1.824
2.190	1.912	3.148	2.378	2.642	2.700
2.804	3.007	2.236	2.664	2.641	2.861
2.380		2.336	2.626	2.208	2.255
3.048		2.126	2.525	2.440	2.382
2.318		2.544	2.693	2.795	3.118
2.760			2.313		2.268
			2.415		2.177
					2.395
					2.286
					2.853

Individual Egg Mass Statistics

N	96	92	95	97	95	100
Mean	2.686	2.746	2.593	2.632	2.633	2.401
Var. (S ²)	0.123	0.129	0.134	0.131	0.133	0.131
SEM	0.036	0.037	0.038	0.037	0.037	0.036

Combined Egg Mass Statistics

Total N	6
Site Mean	2.615
Var. (S ²)	0.014
SEM	0.048

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE		3.566	3.781	4.290	3.587	2.876
06/29/00		3.420	3.631	3.882	4.244	2.973
		3.289	3.507	4.349	3.747	3.322
		3.355	3.735	3.686	2.966	3.855
STUDY DAY		3.705	3.345	3.560	3.597	2.269
80		3.617	3.580	3.751	3.199	3.568
		3.422	3.254	2.607	3.526	3.841
STAGE		3.426	3.256	3.963	3.100	2.538
35		3.581	4.419	3.691	3.246	2.819
		3.762	3.580	4.037	2.917	3.568
		3.363	4.457	3.273	3.348	2.290
		3.491	4.218	3.842	3.345	3.153
		3.326	2.792	1.976	3.939	2.973
		2.937	3.384	3.209	3.491	2.558
		3.902	1.875	3.032	3.273	3.165
		3.520	4.194	3.778	3.033	3.002
		3.319	2.804	4.005	2.615	2.925
			3.621	3.091	3.248	3.598
			3.326	3.328	3.592	2.586
			2.489	3.762	3.396	3.838
			3.503	3.345	3.695	2.827
			3.175	2.652	4.179	3.964
			2.609	3.197	3.491	3.454
			2.008	3.370		
			2.640	2.546		
			2.560	2.715		
			2.634	3.498		
			1.804	3.616		
			3.631	3.454		
			3.612	3.233		
			3.550	3.425		
			3.161	2.712		
			2.469	3.529		
			2.469	2.690		
			3.057	2.628		
			3.775	2.708		
			2.712			
			2.508			
			2.964			
			2.414			
			2.602			
			2.659			
			2.923			
			4.029			
			3.148			
			2.907			
			3.119			
			3.471			
			3.094			
			3.072			
			2.760			
<hr/>						
Individual Egg Mass Statistics						
N	0	17	51	36	23	23
Mean	na	3.471	3.143	3.345	3.425	3.129
Var. (S ²)	na	0.048	0.378	0.303	0.151	0.262
SEM	na	0.053	0.086	0.092	0.081	0.107
Combined Egg Mass Statistics						
Total N	5					
Site Mean	3.303					
Var. (S ²)	0.025					
SEM	0.071					

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE		3.399	3.435	3.328	3.566	4.256
07/20/00			3.582	4.662	4.420	3.668
			3.011	4.346	4.541	2.978
			3.774	3.845	3.846	4.692
STUDY DAY			3.474	3.657		3.501
101			3.502	3.552		3.871
			3.033	3.098		3.389
STAGE			3.078	3.356		2.366
41			2.796	3.207		
			2.420	3.511		
			3.919	2.798		
			3.346	3.224		
			3.668	3.010		
			3.338	3.829		
			3.112	3.765		
			2.739	2.848		
			2.520	3.057		
			2.407	3.757		
			3.204	3.553		
			2.710	3.651		
			4.006	3.372		
			3.534			
			4.194			

Individual Egg Mass Statistics

	0	1	23	21	4	8
N	0	1	23	21	4	8
Mean	na	3.399	3.252	3.496	4.093	3.590
Var. (S ²)	na	na	0.253	0.211	0.216	0.524
SEM	na	na	0.105	0.100	0.232	0.256

Combined Egg Mass Statistics

Total N	5
Site Mean	3.566
Var. (S ²)	0.102
SEM	0.143

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			3.819	3.951		
08/21/00			3.701	3.903		
			4.002	4.371		
STUDY DAY				2.864		
133				3.203		
STAGE						
34						

Individual Egg Mass Statistics

N	0	0	3	5	0	0
Mean	na	na	3.841	3.658	na	na
Var. (S ²)	na	na	0.023	0.373	na	na
SEM	na	na	0.087	0.273	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.750
Var. (S ²)	0.017
SEM	0.091

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
0		0.767	0.788	0.766	0.837	0.834	0.776
5		1.373	1.582	1.440	1.554	1.527	1.486
11	24	1.848	2.083	2.194	2.277	2.024	1.964
47	30	2.675	2.768	2.963	2.773	2.776	2.765
74	34	2.921	2.925	3.107	3.158	3.047	3.206
105	38	3.512	3.457	3.642	3.494	3.267	3.549
137	42	3.675	3.491	4.167	5.035	4.065	3.470
147	41	na	3.494	4.416	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
0	0.008	0.010	0.008	0.009	0.009	0.010
5	0.013	0.014	0.012	0.016	0.014	0.014
11	0.022	0.022	0.024	0.024	0.020	0.025
47	0.034	0.038	0.045	0.037	0.046	0.046
74	0.050	0.052	0.062	0.064	0.071	0.060
105	0.065	0.065	0.105	0.114	0.091	0.111
137	0.146	0.136	0.089	na	0.227	0.294
147	na	0.096	0.173	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	0.799	0.935	0.950	0.807	0.991	0.706
DATE	0.902	0.718	0.678	0.904	0.901	0.856
04/13/00	0.727	0.914	0.784	0.885	0.867	0.886
	0.652	0.812	0.742	0.965	0.957	0.913
STUDY DAY	0.914	0.731	0.687	0.770	0.922	0.891
0	0.795	0.827	0.720	0.715	1.060	0.783
	0.714	0.779	0.772	0.832	0.881	0.784
STAGE	0.839	0.706	0.828	0.797	0.708	0.856
	0.706	0.801	0.691	0.862	0.845	0.709
	0.726	0.744	0.638	0.921	0.913	0.807
	0.714	0.804	0.690	0.775	0.942	0.803
	0.626	0.768	0.666	0.718	0.817	0.958
	0.829	0.796	0.793	0.868	0.950	0.804
	0.742	0.715	0.744	0.689	0.742	0.762
	0.744	0.808	0.896	0.851	0.977	0.902
	0.765	0.656	0.705	0.685	0.896	0.982
	0.803	0.815	0.699	0.910	0.952	0.801
	0.765	1.009	0.817	0.828	0.910	0.779
	0.799	0.626	0.782	0.753	0.957	0.817
	0.754	0.747	0.647	0.727	0.833	1.017
	0.765	0.744	0.747	1.014	0.807	0.924
	0.856	0.578	0.657	0.957	0.747	0.771
	0.731	0.794	0.839	0.694	0.817	0.885
	0.641	0.907	0.860	0.804	0.787	0.628
	0.614	0.795	0.779	0.950	0.817	0.644
	0.691	0.842	0.779	0.973	0.847	0.759
	0.706	0.757	0.744	0.797	0.896	0.715
	0.762	0.941	0.718	0.930	0.803	0.659
	0.860	0.702	0.730	0.657	0.811	0.749
	0.832	0.772	0.742	0.612	0.685	0.541
	0.817	0.862	0.896	0.795	0.675	0.644
	0.843	0.715	0.877	0.839	0.867	0.776
	0.772	0.705	0.760	0.772	0.674	0.705
	0.740	0.659	0.790	0.571	0.947	0.591
	0.685	0.772	0.722	0.876	0.884	0.823
	0.678	0.536	0.633	0.804	0.772	0.663
	0.731	0.832	0.526	0.900	0.860	0.883
	0.831	0.839	0.797	0.942	0.811	0.718
	0.659	0.709	0.722	0.832	0.760	0.960
	0.656	0.828	0.812	0.896	0.839	0.733
	0.690	0.893	0.799	0.828	0.747	0.828
	0.722	0.788	0.799	0.839	0.867	0.818
	0.668	0.742	0.768	0.901	0.789	0.815
	0.807	0.789	0.715	0.902	0.714	0.807
	0.811	0.813	0.759	0.973	0.699	0.842
	0.604	0.816	0.761	0.934	0.686	0.829
	0.754	0.942	0.852	0.871	0.770	0.867
	0.698	0.742	0.929	0.931	0.822	0.884
	0.784	0.782	0.846	0.907	0.799	0.744
	0.864	1.002	0.744	0.860	0.756	0.694
	0.858	0.783	0.630	0.922	0.839	0.783
	0.858	0.793	0.829	0.747	0.910	0.944
	0.864	0.856	0.727	0.889	0.847	0.869
	0.789	0.779	0.776	0.747	0.873	0.754
	0.673	0.883	0.718	0.842	0.876	0.772

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	0.631	0.740	0.784	0.763	0.950	0.699
	0.694	0.848	0.834	0.651	0.944	0.731
	0.784	1.029	0.807	0.789	0.832	0.690
	0.747	0.783	0.823	0.910	0.871	0.760
	0.670	0.744	0.633	0.791	0.722	0.691
	0.847	0.889	0.827	0.815	0.863	0.628
	0.768	0.921	0.886	0.803	0.829	0.921
	0.668	0.832	0.733	0.848	0.829	0.742
	0.829	0.714	0.747	0.869	0.902	0.587
	0.758	0.690	0.715	0.888	0.791	0.675
	0.718	0.742	0.726	0.799	0.750	0.749
	0.742	0.783	0.715	0.708	0.908	0.742
	0.639	0.779	0.856	0.842	0.706	0.817
	0.788	0.594	0.640	0.919	0.901	0.668
	0.869	0.957	0.851	0.788	0.841	0.756
	0.783	0.797	0.761	0.868	0.892	0.690
	0.776	0.974	0.723	0.811	0.731	0.833
	0.762	0.913	0.772	0.910	0.886	0.715
	0.832	0.796	0.868	0.970	0.848	0.753
	0.920	0.921	0.919	0.689	0.892	0.690
	0.718	0.806	0.771	0.844	0.868	0.927
	0.829	0.858	0.706	0.787	0.843	0.771
	0.827	0.807	0.808	0.896	0.817	0.755
	0.862	0.805	0.656	0.841	0.892	0.687
	0.827	0.965	0.700	0.755	0.871	0.807
	0.986	0.685	0.836	0.775	0.975	0.790
	0.826	0.612	0.768	0.880	0.879	0.733
	0.847	0.689	0.961	0.747	0.714	0.807
	0.832	0.471	0.753	0.885	0.742	0.628
	0.817	0.727	0.799	0.967	0.715	0.623
	0.868	0.702	0.776	0.916	0.851	0.622
	0.725	0.889	0.668	0.736	0.753	0.694
	0.663	0.847	0.804	0.895	0.761	0.694
	0.705	0.960	0.789	0.747	0.727	0.709
	0.770	0.528	0.720	0.782	0.789	0.891
	0.871	0.638	0.812	0.909	0.772	0.898
	0.775	0.706	0.691	0.895	0.831	0.848
	0.760	0.742	0.623	0.827	0.976	0.839
	0.799	0.768	0.600	0.948	0.895	0.856
	0.680	0.799	0.879	0.917	0.605	0.817
	0.655	0.783	0.835	0.887	0.654	0.782
	0.807	0.843	0.714	0.899	0.803	0.754
	0.779	0.740	0.848	0.958	0.829	0.836
	0.811	0.742	0.998	0.705	0.913	0.690
	0.860	0.799	0.794	0.907	0.908	0.766
<hr/>						
Individual Egg Mass Statistics						
N	100	100	100	100	100	100
Mean	0.767	0.788	0.766	0.837	0.834	0.776
Var. (S ²)	0.006	0.011	0.007	0.008	0.007	0.009
SEM	0.008	0.010	0.008	0.009	0.009	0.010
 Combined Egg Mass Statistics						
Total N	6					
Site Mean	0.795					
Var. (S ²)	0.001					
SEM	0.013					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.485					
Var. (S ²)	0.009					
SEM	0.040					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
	4.080	2.773	2.468	2.693	1.961	2.014
DATE	5.044	3.333	2.718	2.826	2.340	3.021
06/19/00	5.482	3.802	2.563	2.466	2.335	2.081
	4.187	1.913	2.237	3.117	3.283	2.088
STUDY DAY	4.171	2.012	2.121	2.807	2.282	2.798
72	6.049	3.436	2.240	2.547	2.472	2.277
	4.778	2.377	2.867	2.574	3.258	2.519
STAGE	5.167	2.894	1.572	2.445	2.788	1.344
36	4.114	2.637	2.785	2.733	2.269	2.902
	4.955	2.707	3.164	2.916	2.067	2.493
	5.158	2.807	3.102	2.813	2.871	1.819
	4.574	2.098	2.936	2.848	1.962	2.762
	4.660	2.587	2.936	3.197	1.774	2.055
	4.408	2.943	3.007	3.616	3.207	2.750
	4.258	2.315	2.985	2.904	2.775	3.025
	3.902	2.800	3.192	2.596	3.500	2.481
	3.722	2.899	2.767	2.637	2.459	2.681
	4.667	2.619	2.296	2.446	3.067	3.300
	4.256	2.565	2.716	2.029	1.971	2.373
	4.709	2.298	2.711	2.335	2.983	2.240
	4.037	2.073	2.107	1.775	2.418	2.343
	3.924	2.520	3.146	3.178	2.882	2.561
	3.488	2.857	3.383	2.220	2.199	2.804
	4.079	2.794	2.203	2.820	3.569	2.169
	3.369	2.204	2.203	3.081	3.713	3.207
	4.508	3.214	2.728	3.314	2.041	2.839
	2.344	2.240	3.533	2.565	3.321	3.655
	4.880	2.357	3.130	3.266	3.076	2.800
	4.416	2.661	2.659	2.609	2.766	2.083
	3.722	1.900	2.894	2.827	2.867	2.382
	4.570	2.117	3.222	2.608	2.621	3.041
	3.338	2.264	2.263	3.200	3.089	1.987
	4.502	2.555	2.455	2.891	3.184	2.531
	4.417	1.804	3.081	2.461	2.431	2.785
	3.471	3.585	2.759	3.041	3.043	2.345
	3.236	2.949	3.108	2.382	2.514	3.397
	2.878	2.277	2.445	2.321	2.668	2.206
	4.615	2.427	2.605	2.936	3.289	1.851
	2.971	3.034	3.585	2.735	2.967	2.267
	2.713	2.669	2.697	3.168	2.405	2.800
	3.516	3.707	2.934	2.853	2.104	2.743
	3.870	2.935	2.973	3.624	2.724	2.384
	4.482	3.308	3.523	2.467	2.504	2.514
	3.923	3.904	2.603	3.360	2.626	2.532
	3.344	2.034	3.234	3.333	2.301	3.025
	2.670	3.262	2.707	3.355	2.849	2.949
	2.738	3.291	2.738	3.071	3.223	2.353
	3.222	3.189	3.016	2.982	2.877	2.237
	2.285	2.480	2.282	2.069	3.023	2.936
	2.868	3.565	2.639	2.074	2.707	2.766

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
3.668	3.635	2.369	3.215	2.077	3.380
2.908	2.269	2.630	2.567	3.485	2.741
2.541	2.136	3.941	3.384	2.836	3.293
2.407	2.468	2.766	3.470	2.028	2.514
3.184	3.403	3.064	2.407	2.949	3.509
2.830	3.168	3.268	2.998	3.095	3.674
2.903	3.371	3.026	3.432	3.189	2.572
3.406	2.800	2.903	2.511	2.220	2.844
2.920	3.710	3.190	2.952	3.102	2.934
3.167	3.061	2.941	2.396	2.818	2.369
2.940	3.111	2.733	2.990	3.976	2.287
3.041	3.518	2.813	3.015	2.776	2.794
2.582	2.527	2.552	2.573	2.746	1.551
3.436	2.843	3.262	3.134	2.537	1.676
	3.219	3.269	2.857	3.015	2.593
	3.190	2.773	1.640	1.674	3.401
	3.325	2.242	2.860	1.794	3.476
	3.350	2.286	3.267	2.147	2.669
	2.807	3.001	2.556	3.048	3.571
	3.204	2.579	3.167	2.593	1.744
	2.669	2.908	2.729	1.838	2.102
	2.145	3.404	2.967	3.097	3.313
	3.506	2.899	3.151	2.664	
	2.922	2.735	3.339	2.927	
	2.813	2.743	3.304	2.890	
	2.716	2.453	2.561	2.647	
	2.461	2.195	2.816	2.614	
	2.370	2.530	2.684	3.099	
		2.672	2.468	3.012	
		2.729	2.606		
		2.476	2.301		
		2.151	3.181		
		2.247	2.535		
		2.402	2.910		
		2.464	3.197		
		3.113	3.206		
		2.518	1.740		
		2.448	2.833		
			3.344		
			2.341		
			2.933		
			2.713		
			2.574		
			2.707		
			2.172		

Individual Egg Mass Statistics

	N	64	78	88	95	79	72
Mean		3.792	2.804	2.761	2.798	2.715	2.618
Var. (S ²)		0.748	0.264	0.161	0.171	0.235	0.268
SEM		0.108	0.058	0.043	0.042	0.055	0.061

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	2.915					
Var. (S ²)	0.189					
SEM	0.178					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	3.133	4.452	4.358	2.348	3.321	3.838
07/27/00	4.134	3.928	2.199	3.325	2.747	3.516
	4.209	3.308	3.537	2.470	2.247	2.479
	3.792	3.394	3.226	3.505	3.404	3.701
STUDY DAY		3.142	3.443	2.729	3.474	3.377
110		3.755	2.693	3.676	3.314	3.062
		3.891	3.983	3.010	3.258	
STAGE		2.994	3.896	2.740	3.177	
38		3.477	3.078	2.950	3.682	
		2.524	1.667	2.199	3.871	
		3.602	3.881	2.986	2.561	
		2.851	3.995	3.309	2.500	
		2.736	3.319	2.681	3.388	
		2.697	3.580	3.334	5.225	
		3.436	3.244	2.097	2.989	
		3.502	3.481	2.659	3.341	
		3.264	2.357	3.357	3.375	
		3.898	3.071	2.981	3.803	
		2.471	3.145	3.638	2.327	
		3.489	3.402	3.198		
		3.369	4.015	2.281		
		2.521	3.500	3.509		
		2.578	3.795	1.665		
		3.022	2.678	2.323		
		4.053	2.845	3.485		
		3.200	3.184	3.301		
		3.615	2.889	2.886		
		3.618	2.866	3.672		
		3.549	2.738	3.554		
		4.054	1.841	3.326		
			2.850	3.258		
			3.726	3.372		
			3.233	3.232		
			2.255	3.625		
			3.693	3.125		
				3.159		
				3.325		
				3.032		
				3.615		
				1.739		
				2.483		
				2.123		
				3.630		
				3.650		
				2.999		
				2.575		
				3.398		
				3.195		
				3.108		
				3.146		

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
			3.633		
			3.102		
			2.197		
			3.262		
			2.836		

Individual Egg Mass Statistics

N	4	30	35	55	19	6
Mean	3.817	3.346	3.190	3.018	3.263	3.329
Var. (S ²)	0.241	0.266	0.402	0.269	0.451	0.246
SEM	0.245	0.094	0.107	0.070	0.154	0.202

Combined Egg Mass Statistics

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
Total N	6					
Site Mean	3.327					
Var. (S ²)	0.072					
SEM	0.109					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE	5.262	3.923	3.380	2.663		
08/28/00		3.820	3.786	3.660		
		4.087	4.003	2.974		
		3.915		3.144		
STUDY DAY		3.886		3.527		
142		3.801		2.823		
		3.429		2.859		
STAGE		3.591		3.102		
41		3.963		1.581		
		3.486		2.623		
		4.069		3.093		
				4.530		
				3.105		
				3.379		
				3.344		
				3.666		
				3.087		
				2.556		

Individual Egg Mass Statistics

N	1	11	3	18	0	0
Mean	5.262	3.815	3.723	3.095	na	na
Var. (S ²)	na	0.050	0.100	0.363	na	na
SEM	na	0.067	0.182	0.142	na	na

Combined Egg Mass Statistics

Total N	4
Site Mean	3.974
Var. (S ²)	0.840
SEM	0.458

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE				3.378		
09/28/00				4.252		
				3.598		
				4.809		
STUDY DAY						
173						
STAGE						
40						

Individual Egg Mass Statistics

N	0	0	0	4	0	0
Mean	na	na	na	4.009	na	na
Var. (S ²)	na	na	na	0.422	na	na
SEM	na	na	na	0.325	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	4.009
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) (62.0 mg/kg Sediment PCB Concentration)

	0-EM06	1-EM06	0-EM07	0-EM08	0-EM09	0-EM10
DATE				3.092		
10/09/00						
STUDY DAY						
184						
STAGE						
40						

Individual Egg Mass Statistics

N	0	0	0	1	0	0
Mean	na	na	na	3.092	na	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	3.092
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0	21	0.765	0.761	0.788	0.785	0.785	0.739
6		1.406	1.524	1.624	1.512	1.654	1.552
11		1.564	1.679	1.805	1.650	1.721	1.740
18		1.782	1.771	1.983	1.748	1.807	1.823
21		1.888	1.797	2.004	1.838	1.810	1.860
26		1.891	1.837	2.039	1.861	1.843	1.877
32		2.149	2.056	2.190	2.156	1.917	1.895
36		2.224	2.201	2.351	2.191	2.078	2.101
41		2.517	2.412	2.428	2.301	2.507	2.316
46	35	2.893	2.612	2.670	2.675	2.940	2.361
57	38	3.495	3.630	3.358	3.366	3.683	3.014
105	41	4.109	3.617	2.838	3.289	na	3.681
126	27	na	na	2.892	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0	0.007	0.009	0.007	0.006	0.008	0.007
6	0.015	0.018	0.016	0.017	0.015	0.017
11	0.018	0.019	0.019	0.016	0.021	0.017
18	0.023	0.019	0.023	0.021	0.025	0.020
21	0.029	0.019	0.022	0.026	0.016	0.022
26	0.035	0.021	0.023	0.032	0.029	0.021
32	0.036	0.029	0.024	0.034	0.036	0.022
36	0.040	0.033	0.029	0.037	0.044	0.024
41	0.050	0.035	0.028	0.034	0.070	0.030
46	0.054	0.047	0.034	0.042	0.090	0.034
57	0.057	0.074	0.053	0.065	0.087	0.054
105	na	0.916	0.335	na	na	0.344
126	na	na	0.590	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE	0.796	0.739	0.982	0.844	0.887	0.501
04/06/00	0.584	0.837	0.762	0.784	0.861	0.612
	0.795	0.841	0.868	0.750	0.839	0.738
	0.694	0.810	0.871	0.755	0.778	0.630
STUDY DAY	0.813	0.739	0.655	0.852	0.784	0.586
0	0.813	0.813	0.752	0.696	0.878	0.715
	0.817	0.810	0.791	0.835	0.850	0.761
STAGE	0.796	0.856	0.669	0.878	0.828	0.826
	0.750	0.795	0.844	0.755	0.784	0.672
	0.752	0.617	0.775	0.708	0.962	0.761
	0.609	0.739	0.841	0.796	0.617	0.758
	0.712	0.706	0.833	0.745	0.790	0.739
	0.755	0.801	0.701	0.810	0.801	0.706
	0.741	0.782	0.750	0.782	0.853	0.722
	0.776	0.860	0.611	0.784	0.877	0.646
	0.775	0.555	0.762	0.798	0.810	0.837
	0.890	0.901	0.790	0.845	0.799	0.748
	0.708	0.863	0.721	0.748	0.752	0.696
	0.696	0.667	0.863	0.762	0.836	0.786
	0.669	0.626	0.700	0.833	0.798	0.777
	0.765	0.770	0.847	0.850	0.807	0.729
	0.779	0.782	0.817	0.807	0.694	0.661
	0.763	0.872	0.754	0.699	0.917	0.748
	0.770	0.722	0.810	0.853	0.775	0.818
	0.724	0.836	0.932	0.836	0.825	0.777
	0.784	0.863	0.817	0.750	0.863	0.828
	0.772	0.639	0.792	0.761	0.790	0.801
	0.807	0.654	0.795	0.782	0.899	0.810
	0.810	0.695	0.778	0.785	0.717	0.736
	0.748	0.639	0.737	0.790	0.970	0.727
	0.553	0.722	0.754	0.825	0.824	0.708
	0.633	0.792	0.778	0.748	0.837	0.711
	0.641	0.688	0.661	0.835	0.856	0.646
	0.914	0.923	0.783	0.750	0.810	0.714
	0.799	0.833	0.742	0.703	0.867	0.861
	0.694	0.727	0.735	0.835	0.672	0.683
	0.694	0.794	0.668	0.810	0.686	0.889
	0.757	0.783	0.786	0.617	0.906	0.658
	0.774	0.649	0.848	0.790	0.852	0.724
	0.694	0.644	0.782	0.865	0.839	0.813
	0.862	0.826	0.724	0.872	0.861	0.790
	0.890	0.672	0.865	0.893	0.850	0.752
	0.833	0.897	0.694	0.634	0.846	0.758
	0.754	0.733	0.810	0.802	0.874	0.774
	0.750	0.708	0.667	0.833	0.861	0.748
	0.874	0.695	0.761	0.722	0.813	0.752
	0.768	0.503	0.806	0.750	0.798	0.676
	0.896	0.810	0.856	0.806	0.782	0.843
	0.786	0.837	0.853	0.807	0.817	0.736
	0.782	0.786	0.750	0.823	0.786	0.721

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
0.699	0.775	0.820	0.868	0.778	0.761
0.772	0.695	0.722	0.827	0.861	0.656
0.795	0.840	0.789	0.833	0.609	0.811
0.752	0.950	0.755	0.746	0.789	0.562
0.810	0.762	0.861	0.807	0.531	0.795
0.810	0.694	0.810	0.833	0.841	0.790
0.822	1.005	0.889	0.780	0.769	0.699
0.722	0.712	0.919	0.731	0.819	0.817
0.617	0.845	0.785	0.845	0.703	0.748
0.672	0.833	0.770	0.775	0.720	0.729
0.755	0.727	0.833	0.813	0.648	0.708
0.669	0.877	0.729	0.720	0.727	0.651
0.826	0.733	0.748	0.820	0.711	0.778
0.738	0.775	0.913	0.613	0.778	0.654
0.654	0.823	0.672	0.730	0.654	0.826
0.890	0.761	0.701	0.749	0.796	0.730
0.772	0.890	0.825	0.796	0.730	0.794
0.810	0.748	0.736	0.850	0.727	0.836
0.807	0.722	0.871	0.817	0.801	0.699
0.796	0.835	0.863	0.865	0.785	0.802
0.810	0.775	0.724	0.778	0.722	0.676
0.820	0.828	0.733	0.785	0.764	0.752
0.917	0.727	0.729	0.727	0.722	0.714
0.863	0.811	0.708	0.782	0.750	0.807
0.844	0.755	0.775	0.766	0.727	0.755
0.630	0.778	0.762	0.801	0.886	0.789
0.766	0.750	0.794	0.727	0.811	0.669
0.784	0.785	0.758	0.813	0.786	0.837
0.773	0.761	0.750	0.758	0.712	0.686
0.820	0.755	0.750	0.835	0.792	0.702
0.800	0.794	0.861	0.813	0.711	0.773
0.683	0.828	0.829	0.835	0.696	0.735
0.778	0.782	0.795	0.782	0.772	0.666
0.762	0.807	0.766	0.775	0.772	0.672
0.768	0.654	0.901	0.795	0.834	0.696
0.882	0.754	0.752	0.810	0.669	0.676
0.687	0.614	0.774	0.696	0.727	0.724
0.672	0.578	0.835	0.787	0.735	0.622
0.814	0.833	0.766	0.699	0.862	0.801
0.893	0.928	0.837	0.849	0.733	0.687
0.841	0.774	0.837	0.780	0.639	0.745
0.777	0.668	0.801	0.729	0.809	0.833
0.799	0.634	0.805	0.818	0.785	0.807
0.722	0.739	0.833	0.817	0.562	0.844
0.686	0.768	0.676	0.633	0.817	0.733
0.805	0.614	0.748	0.801	0.813	0.748
0.795	0.773	0.843	0.779	0.837	0.807
0.641	0.678	0.833	0.730	0.724	0.846
0.733	0.583	0.862	0.806	0.768	0.754
0.772	0.683	0.959	0.752	0.729	0.722

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
Individual Egg Mass Statistics						
N	100	100	100	100	100	100
Mean	0.765	0.761	0.788	0.785	0.785	0.739
Var. (S ²)	0.005	0.008	0.005	0.003	0.006	0.005
SEM	0.007	0.009	0.007	0.006	0.008	0.007
Combined Egg Mass Statistics						
Total N	6					
Site Mean	0.770					
Var. (S ²)	0.000					
SEM	0.008					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE	1.323	1.720	1.635	1.474	1.632	1.401
04/12/00	1.286	1.408	1.319	1.484	1.676	1.469
	1.349	1.872	1.446	1.330	1.706	1.525
STUDY DAY	1.148	1.608	1.877	1.519	1.871	1.486
6	1.227	1.512	1.689	1.401	1.811	1.372
	1.332	1.311	1.620	1.351	1.591	1.535
STAGE	1.266	1.276	1.906	1.529	1.679	1.500
	1.435	1.327	1.651	1.719	1.746	1.691
	1.358	1.329	1.654	1.608	1.887	1.301
	1.512	1.507	1.518	1.800	1.731	1.590
	1.311	1.585	1.487	1.637	1.378	1.572
	1.420	1.474	1.634	1.987	2.065	1.454
	1.560	1.371	1.598	1.449	1.940	1.609
	1.299	1.907	1.501	1.434	1.800	1.722
	1.345	1.401	1.618	1.540	1.681	1.688
	1.483	1.446	1.627	1.431	1.779	1.524
	1.237	1.401	1.553	1.481	1.607	1.565
	1.225	1.591	1.992	1.240	1.753	1.402
	1.406	1.329	1.270	1.408	1.485	1.620
	1.449	1.425	1.699	1.277	1.523	1.400
	1.205	1.410	1.504	1.624	1.372	1.674
	1.670	1.546	1.531	1.361	1.763	1.538
	1.182	1.514	1.442	1.629	1.610	1.082
	1.804	1.620	1.739	1.693	1.640	1.324
	1.299	1.625	1.576	1.373	1.713	1.284
	1.323	1.543	1.655	1.299	1.442	1.617
	1.269	1.333	1.644	1.257	1.518	1.725
	1.185	1.418	2.115	1.453	1.535	1.532
	1.525	1.546	1.983	1.351	1.532	1.436
	1.301	1.508	1.814	1.657	1.807	1.533
	1.479	1.531	1.946	1.829	1.597	1.756
	1.357	1.274	1.766	1.595	1.773	1.388
	1.338	1.629	1.677	1.461	1.314	1.793
	1.351	1.580	1.545	1.241	1.428	1.772
	1.319	1.287	1.696	1.512	1.660	1.664
	1.601	1.859	1.717	1.657	1.512	1.634
	1.456	1.376	1.372	1.548	1.781	1.406
	1.484	1.803	1.561	1.481	1.554	1.631
	1.153	1.596	1.543	1.488	1.523	1.744
	1.180	1.313	1.591	1.420	1.665	1.817
	1.664	1.022	1.696	1.177	1.496	1.491
	1.551	1.408	1.786	1.403	1.279	1.436
	1.785	1.710	1.681	1.474	1.529	1.832
	1.538	1.280	1.572	1.451	1.447	1.709
	1.761	1.875	1.792	1.455	1.662	1.515
	1.534	1.965	1.411	1.435	1.797	1.485
	1.608	1.793	1.611	1.575	1.501	1.553
	1.514	1.422	1.469	1.484	1.603	1.400
	1.857	1.504	1.691	1.534	1.711	1.748
	1.528	1.770	1.593	1.840	1.724	1.662

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.376	1.358	1.628	1.506	1.709	1.433
1.286	1.558	1.519	1.677	1.753	1.796
1.315	1.500	1.537	1.818	1.728	1.566
1.343	1.648	1.555	1.857	1.649	1.751
1.325	1.598	1.603	1.714	1.634	1.741
1.343	1.722	1.689	1.599	1.640	1.606
1.172	1.734	1.665	1.257	1.822	1.311
1.503	1.249	1.784	1.620	1.492	1.572
1.449	1.531	1.538	1.407	1.651	1.750
1.362	1.464	1.748	1.663	1.552	1.499
1.343	1.420	1.644	1.617	1.705	1.372
1.307	1.647	1.447	1.395	1.671	1.541
1.317	1.445	1.429	1.413	1.817	1.840
1.193	1.188	1.447	1.842	1.580	1.793
1.302	1.573	1.571	1.111	1.853	1.400
1.409	1.250	1.330	1.555	1.677	1.074
1.382	1.424	1.813	1.562	1.780	1.305
1.477	1.549	1.893	1.420	1.529	1.410
1.241	1.445	1.529	1.356	1.485	1.480
1.477	1.503	1.373	1.720	1.642	1.584
1.539	1.546	1.763	1.768	1.867	1.433
1.563	1.741	1.506	1.502	1.609	1.610
1.716	1.636	1.587	1.850	1.606	1.646
1.357	1.887	1.293	1.424	1.546	1.775
1.571	1.514	1.543	1.605	1.577	1.385
1.467	1.512	1.628	1.353	1.724	1.697
1.442	1.329	1.565	1.527	1.655	1.383
1.568	1.575	1.411	1.508	1.554	1.495
1.485	1.394	1.399	1.475	1.470	1.400
1.439	1.474	1.637	1.588	1.909	1.686
1.130	1.499	1.573	1.729	1.457	1.587
1.319	1.274	1.712	1.555	1.830	1.587
1.325	1.656	1.734	1.611	1.971	1.365
1.297	1.611	1.835	1.508	1.743	1.541
1.429	1.469	1.729	1.495	1.529	1.171
1.329	1.600	1.879	1.437	1.584	1.808
1.604	1.458	1.356	1.311	1.739	1.482
1.311	1.497	1.583	1.527	1.867	1.403
1.395	1.218	1.428	1.456	1.644	1.820
1.266	1.644	1.659	1.460	1.729	1.408
1.308	1.393	1.895	1.474	1.663	1.664
1.380	1.688	1.937	1.533	1.691	1.772
1.458	1.750	1.465	1.639	1.665	1.562
1.354	1.699	1.680	1.466	1.657	1.295
1.293	1.601	1.665	1.438	1.442	1.695
1.447	1.723	1.523	1.112	1.555	1.782
1.586	1.815	1.626	1.627	1.935	1.268
1.436	1.491	1.617	1.371	1.757	1.514
1.695		1.583	1.318	1.541	1.854
		1.862	1.514	1.720	1.672

Individual Egg Mass Statistics

N	99	98	100	100	100	100
Mean	1.406	1.524	1.624	1.512	1.654	1.552
Var. (S ²)	0.024	0.032	0.027	0.027	0.022	0.030
SEM	0.015	0.018	0.016	0.017	0.015	0.017

Combined Egg Mass Statistics

Total N	6
Site Mean	1.545
Var. (S ²)	0.008
SEM	0.036

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.469	1.747	1.612	1.633	1.707	2.012
DATE	1.331	1.522	1.824	1.549	2.005	1.597
04/17/00	1.513	1.287	1.652	1.730	1.908	1.506
	1.449	2.004	1.647	1.921	2.147	1.623
STUDY DAY	1.344	1.772	1.575	1.769	1.716	1.463
11	1.429	1.722	1.647	1.761	1.969	1.543
	1.508	1.575	1.961	1.777	1.682	1.611
STAGE	1.673	1.517	1.722	1.721	1.327	1.702
21	1.497	1.719	1.548	1.799	1.442	1.578
	1.433	1.595	1.598	1.566	1.841	1.522
	1.101	1.983	1.999	1.281	1.759	1.748
	1.567	1.502	1.622	1.680	1.754	1.677
	1.395	1.786	1.929	1.673	1.546	1.627
	1.441	1.719	1.625	1.319	1.627	1.731
	1.516	1.737	1.840	1.517	1.837	1.767
	1.370	1.661	1.641	1.584	2.111	1.977
	1.060	1.468	1.758	1.586	1.790	1.784
	1.284	1.507	1.475	1.899	1.548	1.562
	1.150	1.627	2.055	1.307	1.643	2.051
	1.420	1.650	1.794	1.497	1.586	1.709
	1.301	1.864	1.546	1.582	1.785	1.655
	1.677	1.254	1.613	1.689	1.747	1.521
	1.729	1.591	1.907	1.633	1.790	1.896
	1.784	1.684	2.059	1.900	2.014	1.835
	1.700	1.661	1.686	1.648	1.987	1.754
	1.538	1.600	1.800	1.551	1.706	1.747
	1.523	1.650	1.923	1.680	1.702	2.048
	1.431	1.391	1.616	1.780	1.720	1.910
	1.592	1.344	1.981	1.789	1.689	1.627
	1.769	1.732	2.101	1.298	1.508	2.046
	1.720	1.819	1.630	1.565	1.137	1.748
	1.866	1.751	1.778	1.331	1.641	1.708
	1.950	1.379	1.811	1.458	1.713	1.805
	1.600	1.498	1.658	1.511	0.840	1.676
	1.559	1.619	1.718	1.608	1.679	1.810
	1.636	1.566	1.743	1.511	1.630	2.061
	1.648	1.632	1.487	1.471	1.522	1.514
	1.623	1.473	1.882	1.487	1.752	1.808
	1.493	1.689	2.201	1.633	1.550	2.039
	1.665	1.798	1.953	1.724	1.648	1.849
	1.641	2.104	2.122	1.586	1.406	1.849
	1.568	1.617	2.096	1.708	1.531	1.704
	1.627	1.829	1.948	1.718	1.578	1.520
	1.616	1.681	2.011	1.851	1.821	1.504
	1.568	1.574	2.380	1.509	1.649	1.634
	1.764	1.717	1.720	1.576	1.734	1.729
	1.454	1.885	1.672	1.628	1.649	1.845
	1.630	1.655	1.568	1.899	1.689	1.427
	1.897	1.533	1.693	1.870	1.995	1.765
	1.751	1.880	1.833	1.481	1.871	1.809

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.514	1.824	1.759	1.703	1.677	1.754
1.576	1.724	1.974	1.762	1.969	1.712
1.654	1.869	1.899	1.704	1.534	1.623
1.134	1.873	1.962	1.600	1.476	1.655
1.566	1.913	1.863	1.731	1.613	1.600
1.640	1.810	2.173	1.709	1.489	2.033
1.690	1.950	2.095	1.783	1.880	2.126
1.459	1.633	1.878	1.763	1.748	1.593
1.710	1.646	1.951	1.709	1.896	1.567
1.797	1.907	2.130	1.650	1.813	1.613
1.870	2.088	2.000	1.681	1.874	1.712
1.533	1.502	1.678	1.569	1.803	1.890
1.439	1.490	1.769	1.610	1.714	1.740
1.516	1.623	1.811	1.782	1.969	2.114
2.004	1.512	1.624	1.523	1.859	1.901
1.891	1.345	1.799	1.636	2.147	1.735
1.670	1.442	1.945	1.575	1.633	1.790
1.816	1.419	1.722	1.431	1.741	1.826
1.495	1.621	2.100	1.516	1.778	1.485
1.432	1.854	1.907	1.596	2.138	1.617
1.670	1.514	1.807	1.752	1.819	1.950
1.466	1.441	1.979	1.851	1.797	1.668
1.646	1.844	1.731	1.989	1.622	1.762
1.365	1.974	1.891	1.598	1.640	1.857
1.511	1.646	2.082	1.491	1.708	1.951
1.513	1.757	1.511	1.769	1.760	1.702
1.541	1.590	1.794	1.982	1.731	1.659
1.607	1.745	1.676	1.917	1.667	1.592
1.714	1.493	1.495	1.744	1.817	1.529
1.322	1.659	2.065	1.603	1.847	1.676
1.216	1.845	1.691	1.430	1.650	1.490
1.727	1.654	1.658	1.331	1.935	1.411
1.554	1.579	1.489	1.511	2.073	1.797
1.522	1.554	1.636	1.846	1.800	1.890
1.533	1.525	1.603	1.849	1.603	1.835
1.385	2.012	1.918	1.582	1.574	1.810
1.786	1.791	1.869	1.549	1.627	1.699
1.641	2.014	2.211	1.514	1.454	1.622
1.781	1.541	1.696	1.921	1.683	1.625
1.667	1.707	1.964	1.699	2.033	1.512
1.508	1.748	1.737	1.987	1.936	1.828
1.733	1.190	1.623	1.459	1.774	1.850
1.560	1.684	1.613	1.486	1.596	1.732
1.598	1.720	1.803	1.667	1.437	1.710
1.480	1.826	1.460	1.641	1.270	1.678
1.462	1.677	1.710	1.895	1.738	1.726
1.463	2.131	1.774	1.748	1.762	2.022
1.676	2.069	1.794	1.582	1.912	1.969
		1.778	1.659	1.764	1.978
		1.772			1.735

Individual Egg Mass Statistics

N	98	98	100	99	99	100
Mean	1.564	1.679	1.805	1.650	1.721	1.740
Var. (S ²)	0.032	0.037	0.037	0.026	0.043	0.028
SEM	0.018	0.019	0.019	0.016	0.021	0.017

Combined Egg Mass Statistics

Total N	6
Site Mean	1.693
Var. (S ²)	0.007
SEM	0.034

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE 04/24/00	1.430	2.096	1.958	1.807	1.694	1.698
	1.285	1.824	2.175	1.765	1.544	1.663
	1.720	1.474	2.386	1.834	1.459	1.606
STUDY DAY 18	1.683	1.570	1.764	1.815	1.663	1.627
	1.628	1.761	2.174	1.698	1.736	1.603
	1.673	1.735	2.160	1.631	2.040	1.709
STAGE	1.639	1.761	2.003	1.523	1.590	1.547
	1.539	1.958	1.910	1.758	1.722	1.600
	1.274	2.067	1.906	1.866	1.634	1.649
	1.696	2.001	1.884	1.616	1.669	1.907
	1.443	2.071	2.322	2.075	1.773	1.564
	2.069	1.875	2.060	1.759	1.959	1.806
	1.834	2.130	1.610	1.677	1.698	1.889
	1.624	2.021	1.844	2.033	1.977	1.773
	1.850	1.861	2.269	1.791	1.887	1.861
	1.752	2.296	1.670	1.871	1.587	2.075
	1.976	1.973	1.880	1.908	1.705	1.541
	1.784	2.201	2.168	2.181	1.807	1.748
	1.527	2.076	1.714	2.056	1.610	2.022
	1.875	2.207	1.669	1.869	1.474	1.650
	1.633	1.764	1.649	2.010	1.872	1.863
	1.923	1.887	1.832	2.000	2.035	1.630
	2.082	1.668	2.459	1.369	2.158	1.701
	1.872	1.788	1.812	1.415	1.777	1.838
	1.916	1.748	1.807	2.186	2.258	1.931
	1.614	1.722	2.067	1.766	1.909	2.117
	1.714	1.820	2.088	1.958	2.226	1.952
	1.618	1.883	1.829	1.785	1.832	1.546
	1.733	1.848	1.724	1.727	1.918	1.791
	1.728	1.587	2.173	1.576	1.782	2.174
	1.564	1.529	2.117	2.040	1.761	1.786
	1.733	1.474	1.575	1.955	1.567	1.804
	1.492	1.777	1.578	1.843	1.740	2.341
	2.167	1.701	2.203	1.789	1.422	1.670
	2.009	1.492	1.982	2.119	1.619	1.747
	1.991	1.706	2.071	2.211	1.387	1.886
	1.945	1.740	2.117	2.072	1.698	2.100
	2.185	1.860	2.283	1.836	1.624	1.904
	1.779	1.695	2.412	1.975	1.638	1.794
	2.092	1.873	2.201	1.301	1.624	1.785
	1.943	1.883	1.687	1.913	1.334	2.202
	1.880	1.720	2.058	1.736	1.818	1.610
	1.877	1.978	1.939	1.992	1.585	1.915
	2.085	1.777	2.219	1.861	1.686	2.001
	1.680	1.886	2.251	1.905	1.788	1.915
	1.968	1.697	2.358	1.376	1.967	2.143
	2.162	1.739	1.938	1.480	2.777	1.600
	1.950	1.636	1.969	1.567	2.330	1.759
	1.791	1.718	1.658	1.852	2.001	2.017
	1.827	1.658	2.021	1.786	2.060	2.058

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.762	1.943	2.049	1.716	1.552	2.121
1.958	1.830	1.764	1.983	1.610	1.824
1.963	1.574	1.788	1.829	1.360	1.592
1.809	1.429	2.162	1.724	1.907	1.764
1.996	1.754	2.006	1.926	1.773	1.608
2.064	1.769	1.837	1.745	1.849	1.707
2.099	1.625	1.758	1.818	1.822	1.707
1.824	1.696	2.258	2.076	1.658	1.720
1.507	1.598	2.256	1.704	1.590	1.699
1.799	1.984	1.809	1.710	1.646	1.551
1.639	1.542	1.928	1.775	1.917	2.048
1.892	1.746	1.436	1.606	1.838	1.930
1.724	1.619	1.889	1.927	1.693	1.968
1.749	1.902	1.852	1.818	1.436	1.824
2.109	1.850	1.970	1.676	1.545	1.991
1.581	1.819	1.917	1.916	1.766	2.039
1.984	1.706	1.985	1.757	1.670	1.796
1.757	1.849	1.873	1.816	2.143	2.192
1.733	1.555	1.939	1.804	1.757	1.897
1.973	1.638	1.959	1.706	2.074	1.799
1.824	1.525	1.688	1.859	1.947	1.857
1.866	1.587	1.624	1.836	2.076	1.821
1.909	1.958	2.324	1.740	2.154	1.833
1.693	1.709	1.950	2.067	2.194	1.517
1.851	2.041	2.255	1.653	2.363	2.192
1.631	1.778	1.824	1.624	2.063	1.881
1.530	1.766	1.909	1.636	2.471	2.028
1.739	1.707	1.910	1.779	1.966	1.425
1.395	1.863	1.783	1.426	1.884	1.586
1.556	1.606	2.319	1.594	2.078	1.545
1.575	1.698	2.170	1.394	1.793	1.575
1.854	1.501	1.715	1.420	1.686	1.584
1.917	1.778	2.190	1.588	1.688	1.499
1.395	1.771	1.738	1.299	1.852	1.565
1.511	1.631	1.901	1.487	1.741	1.823
1.731	1.564	1.933	1.563	1.898	1.928
1.642	1.691	1.847	1.433	2.001	2.109
1.631	1.813	2.351	1.492	1.830	2.097
2.014	1.897	2.201	1.436	1.758	1.522
2.455	2.285	2.287	1.462	1.843	1.637
1.857	1.504	2.344	1.466	1.789	1.582
1.433	1.636	1.993	1.761	1.589	1.835
1.395	1.831	1.764	1.602	1.534	2.091
1.898	1.485	2.007	1.525	1.606	1.992
	1.504	1.694	1.525	1.925	2.244
	1.529	1.918	1.668	1.705	1.831
	1.504	2.205	1.559		1.849
		2.244	1.430		1.986
		2.463			1.991
		1.693			1.938

Individual Egg Mass Statistics

N	94	97	100	98	96	100
Mean	1.782	1.771	1.983	1.748	1.807	1.823
Var. (S ²)	0.048	0.036	0.054	0.045	0.061	0.041
SEM	0.023	0.019	0.023	0.021	0.025	0.020

Combined Egg Mass Statistics

Total N	6
Site Mean	1.819
Var. (S ²)	0.007
SEM	0.035

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.895	1.901	2.005	1.858	1.714	2.353
DATE	1.683	1.790	2.126	1.779	1.868	1.629
04/27/00	2.271	1.926	2.126	1.911	1.654	1.797
	2.052	1.713	2.160	1.832	1.827	1.747
STUDY DAY	1.889	1.652	1.898	1.883	1.647	2.017
21	2.083	1.703	1.767	1.972	1.915	1.729
	2.024	1.965	2.009	1.805	2.015	1.783
STAGE	2.111	1.894	1.863	2.279	1.711	1.572
	2.300	2.033	1.653	2.541	1.792	1.611
	2.163	1.815	1.658	2.431	1.740	1.282
	1.620	1.891	2.063	2.115	1.792	1.732
	2.034	1.706	1.867	1.880	1.820	1.638
	1.528	1.510	2.083	1.896	1.974	1.886
	1.567	1.621	2.062	1.420	1.723	1.610
	1.770	1.622	1.836	1.858	1.800	2.058
	1.723	1.919	1.854	1.822	1.984	1.449
	1.750	1.938	1.945	2.366	1.823	1.963
	1.877	1.924	2.005	1.608	1.853	2.112
	1.660	2.272	1.522	1.449	1.967	2.253
	1.630	1.827	1.951	1.623	2.041	1.845
	1.615	1.879	1.809	2.156	1.889	1.898
	1.986	1.729	2.213	2.093	1.974	1.714
	2.016	1.906	1.683	2.044	2.040	1.773
	1.889	1.819	2.128	1.451	2.065	2.044
	1.737	1.882	2.019	1.658	1.872	2.172
	2.065	1.516	2.211	1.864	1.973	2.026
	2.230	1.660	2.166	1.985	1.856	2.006
	2.240	1.790	1.691	2.029	1.706	2.173
	2.013	1.684	1.874	1.663	1.931	2.167
	2.200	1.813	2.042	1.793	1.566	1.863
	2.331	1.526	2.049	2.028	1.626	1.955
	2.212	1.667	1.859	1.868	1.578	2.156
	2.022	1.919	1.767	1.885	1.651	1.898
	2.360	1.601	1.870	1.749	1.568	2.018
	1.960	1.829	2.000	1.543	1.551	1.994
	1.951	1.604	2.008	1.899	1.811	1.839
	1.916	1.807	1.775	1.877	1.569	1.663
	2.203	1.776	2.152	1.316	1.613	1.799
	2.085	1.865	2.125	1.912	2.093	2.406
	1.357	1.863	1.505	2.144	1.932	2.350
	1.866	1.749	2.042	1.955	1.803	1.711
	1.903	2.049	1.954	2.211	1.985	1.799
	2.448	1.650	2.050	1.483	1.951	1.589
	2.483	1.559	1.946	1.896	2.006	1.609
	2.157	1.523	1.911	1.962	1.875	2.067
	2.026	2.040	2.105	2.009	1.853	2.259
	2.002	1.755	1.902	1.918	1.981	1.717
	2.117	1.752	1.991	1.949	1.918	1.658
	1.732	1.756	2.122	2.051	1.757	1.921
	1.997	1.772	1.657	1.757	2.008	1.865

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	1.952	2.103	2.488	2.038	1.855	1.745
	1.750	1.751	1.895	1.955	2.048	1.742
	1.718	1.995	2.011	2.174	1.835	1.915
	1.900	1.696	2.260	1.984	1.912	1.679
	2.160	1.814	2.249	1.832	1.999	1.999
	1.664	2.119	1.839	2.026	2.060	2.115
	1.878	1.669	2.345	2.306	1.599	2.075
	1.749	1.643	1.950	1.866	1.677	1.702
	2.402	1.441	1.865	2.082	1.820	1.642
	1.988	1.919	2.065	1.905	1.689	1.823
	2.228	1.588	1.989	2.009	1.865	1.853
	2.046	1.797	1.832	1.620	1.787	1.561
	1.764	1.665	1.455	1.697	1.709	1.800
	1.876	1.788	1.834	1.789	1.962	1.539
	1.553	2.129	1.888	1.675	1.969	1.900
	1.917	1.938	1.748	2.282	1.877	1.820
	1.860	1.825	2.389	1.761	1.911	2.000
	2.123	1.888	2.054	2.103	1.677	1.891
	2.089	1.560	1.991	2.216	1.649	2.032
	2.446	1.898	2.056	1.865	1.915	1.586
	1.940	1.682	2.005	1.620	1.626	2.177
	1.481	1.579	2.053	1.737	1.897	1.772
	1.553	1.952	2.354	1.813	1.614	1.718
	1.640	1.379	2.123	1.783	1.771	1.589
	1.376	1.893	2.028	1.541	1.590	1.671
	1.883	2.381	2.076	1.463	1.756	1.697
	1.891	1.887	2.395	1.436	1.700	1.517
	1.860	2.095	1.972	1.623	1.734	2.194
	1.389	1.852	2.447	1.755	1.697	2.004
	1.795	2.071	1.950	1.702	1.952	2.101
	2.042	2.111	2.369	1.657	1.839	1.566
	1.693	2.031	1.906	1.581	1.819	1.750
	1.513	1.931	2.344	1.927	1.667	1.876
	1.647	1.381	1.767	1.483	1.530	1.912
	1.853	1.467	2.137	1.741	1.618	1.873
	1.495	1.727	2.194	1.657	1.572	1.739
	1.335	1.929	2.224	1.599	1.695	2.281
	1.772	1.801	2.203	2.567	1.744	2.011
	1.585	1.737	2.398	1.633		1.930
	1.562	1.617	1.756	1.717		2.169
	1.230	1.615	1.762	1.365		2.101
	1.307	1.724	2.222	1.521		1.730
		1.783	2.023	1.575		1.926
		1.861	2.025	1.697		1.697
		1.523	2.602	1.591		1.591
		1.823	1.960	1.637		1.530
		1.925	1.536	1.297		1.683
			2.111	1.718		1.820
			2.191			1.975
			1.966			1.793
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Individual Egg Mass Statistics						
N	92	97	100	98	88	100
Mean	1.888	1.797	2.004	1.838	1.810	1.860
Var. (S ²)	0.078	0.035	0.048	0.068	0.022	0.049
SEM	0.029	0.019	0.022	0.026	0.016	0.022
Combined Egg Mass Statistics						
Total N	6					
Site Mean	1.866					
Var. (S ²)	0.006					
SEM	0.031					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.107	1.964	2.158	2.063	1.597	2.172
DATE	1.658	1.785	2.297	1.856	1.763	2.188
05/02/00	1.864	1.830	1.902	2.311	1.318	2.049
	1.836	1.774	2.133	2.266	1.688	2.085
STUDY DAY	1.517	1.776	2.347	1.588	1.773	2.025
26	1.742	1.891	1.971	1.881	1.860	2.360
	1.943	2.018	1.983	1.895	1.702	1.779
STAGE	1.880	2.460	2.250	1.970	1.640	2.175
	1.992	1.732	1.942	2.157	1.650	1.676
	1.564	2.186	1.835	1.895	1.857	1.857
	1.624	2.120	2.068	1.870	1.767	2.193
	1.698	1.881	1.935	2.619	1.629	2.122
	1.826	1.665	2.130	2.002	1.538	2.353
	1.756	2.041	1.910	1.831	1.600	1.994
	1.530	2.160	2.083	1.782	2.411	2.222
	1.753	1.814	1.881	2.046	2.140	2.062
	1.472	1.982	1.699	2.281	2.122	1.992
	1.895	1.856	2.262	2.009	2.146	1.790
	1.665	1.902	2.000	2.302	2.023	2.363
	1.711	1.874	2.326	1.996	1.914	2.169
	1.606	2.224	2.217	2.057	1.871	2.024
	1.679	2.368	1.964	2.341	1.891	1.919
	1.716	1.998	1.727	2.171	1.996	2.135
	1.832	2.093	1.747	1.960	1.949	2.017
	2.176	1.687	1.957	1.951	2.384	1.801
	2.681	1.660	2.045	2.130	1.863	2.105
	2.034	1.966	2.097	2.094	2.210	1.842
	2.103	1.957	1.890	2.047	1.931	2.138
	1.679	1.948	2.005	1.635	1.906	1.922
	1.440	1.932	2.227	2.157	1.699	1.904
	1.498	1.980	2.025	1.860	1.939	1.802
	1.747	1.883	1.300	1.977	1.911	1.918
	2.720	1.908	1.983	2.388	2.052	2.034
	2.232	1.753	1.679	1.828	1.601	1.704
	2.342	1.861	2.302	1.767	1.796	1.844
	2.266	1.657	2.216	2.022	1.454	1.571
	2.346	1.609	2.154	2.009	1.942	1.778
	1.827	1.754	1.853	2.298	1.607	1.970
	2.034	1.966	1.784	2.128	1.601	1.839
	2.785	1.789	1.611	2.111	1.947	1.793
	2.745	2.026	2.054	2.336	1.863	1.834
	2.365	1.631	2.059	1.803	2.165	1.572
	2.118	1.703	2.335	1.775	1.779	1.794
	1.782	1.968	1.948	1.847	1.811	1.869
	2.279	1.985	2.372	1.958	1.763	2.127
	2.160	2.117	1.921	2.057	1.810	2.027
	1.713	1.855	1.816	2.202	2.171	1.752
	1.835	1.810	2.565	1.351	1.900	1.961
	1.742	1.897	1.773	2.020	1.435	1.794
	2.180	2.031	1.696	1.803	1.499	1.871

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
1.856	1.718	1.860	1.958	1.947	2.172
1.655	1.797	2.094	1.595	1.576	1.782
2.189	1.894	2.448	2.096	1.696	2.053
1.870	1.945	2.105	1.761	2.018	1.884
1.713	1.442	1.631	2.061	2.231	2.271
2.012	1.783	1.483	1.581	2.157	2.014
1.783	2.072	2.130	1.750	2.052	1.538
1.543	1.826	2.117	1.716	1.782	1.572
1.986	1.979	2.047	2.345	1.947	1.766
1.753	1.941	2.103	1.906	1.880	1.653
1.508	1.991	2.295	1.711	1.449	1.545
1.554	1.519	2.052	1.601	2.071	1.656
1.861	1.760	2.264	2.077	1.516	1.329
2.029	1.726	2.287	2.262	1.753	1.590
1.696	1.651	1.891	1.943		1.583
1.550	1.960	2.092	1.791		1.557
2.091	2.101	2.322	1.636		1.623
2.041	1.755	2.307	2.048		1.794
1.914	1.631	2.090	1.850		1.676
1.856	1.276	2.160	1.604		1.890
1.904	2.064	2.064	1.599		1.714
2.394	1.715	2.165	2.230		1.625
2.625	1.554	2.119	2.074		1.741
1.831	1.832	2.335	1.383		1.782
1.476	1.933	2.231	1.268		1.759
1.286	1.581	1.763	1.286		1.909
1.950	1.640	2.206	1.537		1.618
1.811	1.823	2.232	1.452		1.728
1.662	1.708	2.214	1.589		1.884
1.602	1.792	2.024	1.568		2.073
1.716	1.838	2.158	1.443		2.046
1.633	1.258	1.634	1.850		1.671
	1.456	2.207	1.640		1.890
	1.604	1.447	1.548		1.496
	2.040	1.990	1.667		1.701
	1.631	2.259	1.312		1.746
	1.785	1.916	1.135		1.759
	1.899	2.074	1.513		1.994
	1.641	1.558	1.348		1.989
	1.634	1.816	1.498		1.574
	1.719	2.077	1.562		1.778
	1.602	2.272	1.343		1.769
	1.588	2.027	1.271		1.872
	1.797	1.959			1.808
	1.768	2.143			1.934
	1.755	2.180			1.704
	2.079	2.399			2.257
		2.335			1.815
		2.026			1.945
		1.841			1.925

Individual Egg Mass Statistics

N	82	97	100	93	64	100
Mean	1.891	1.837	2.039	1.861	1.843	1.877
Var. (S ²)	0.102	0.042	0.054	0.094	0.055	0.045
SEM	0.035	0.021	0.023	0.032	0.029	0.021

Combined Egg Mass Statistics

Total N	536
Site Mean	1.892
Var. (S ²)	0.006
SEM	0.031

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
2.233	2.048	2.783	2.520	1.588	1.928
2.214	2.351	1.950	1.691	1 larvae missing	2.110
2.467	1.810	2.281	2.854	from count	1.904
2.597	1.754	2.799	2.279		1.699
1.874	2.073	2.580	1.927		1.688
2.278	1.720	2.091	1.845		1.513
2.117	1.592	2.175	2.245		1.801
1.912	1.320	2.160	1.852		1.700
2.180	2.198	2.143	1.677		1.799
2.092	2.148	2.351	2.233		2.187
2.433	1.845	2.138	2.451		1.954
2.175	1.961	1.931	1.922		1.505
2.404	1.441	2.218	2.085		1.506
2.547	2.048	2.459	2.253		1.643
2.234	1.561	2.134	2.926		1.767
2.296	2.179	2.149	2.466		1.939
2.222	1.953	2.050	2.485		1.779
2.472	1.878	2.380	1.705		1.785
2.037	2.581	2.239	2.111		2.045
2.305	1.940	1.894	2.256		1.740
1.827	2.145	2.059	2.339		1.623
2.270	2.125	2.203	1.658		1.835
1.810	2.707	1.857	1.699		1.793
1.872	2.089	1.823	1.752		1.977
2.111	2.329	2.104	1.689		1.792
1.886	2.387	2.298	1.710		1.816
2.044	2.133	2.047	1.689		2.045
1.834	1.994	2.149	2 larvae missing		1.790
	1.875	2.140	from count		2.449
	1.699	2.060			2.072
	1.821	2.241			2.258
	2.230	1.723			1.972
	2.093	1.821			2.207
	2.139	2.039			2.531
	2.073	2.291			1.992
	2.009	2.189			2.034
	2.133	2.160			2.082
	1.720	2.152			2.097
	2.199	2.110			2.273
	1.972	2.289			1.955
	1.845	1.875			1.634
	1.991	2.358			1.947
	2.196	2.170			1.253
	2.035	2.031			1.772
	1.884	2.601			2.134
		2.213			1.624
		2.005			1.884
		1.856			1.857
		2.203			2.003
		2.225			

Individual Egg Mass Statistics

N	78	95	100	77	51	99
Mean	2.149	2.056	2.190	2.156	1.917	1.895
Var. (S ²)	0.103	0.081	0.057	0.088	0.067	0.048
SEM	0.036	0.029	0.024	0.034	0.036	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.060
Var. (S ²)	0.016
SEM	0.052

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.467	1.876	2.043	2.309	1.948	2.256
DATE	1.922	2.240	2.827	2.376	1.732	2.311
05/12/00	1.838	1.922	2.211	2.731	2.354	2.246
	2.642	2.159	2.068	2.475	2.514	2.280
STUDY DAY	2.443	1.627	2.652	2.582	2.295	2.886
36	1.807	2.831	2.574	2.520	2.470	2.239
	2.128	2.594	2.429	2.774	2.215	2.151
STAGE	2.450	2.248	2.547	2.059	3.194	2.112
	2.172	1.848	2.494	2.233	2.116	2.056
	2.025	2.903	2.262	3.246	2.312	2.499
	1.764	2.160	2.037	2.290	1.864	2.137
	1.496	2.376	1.791	2.356	2.017	2.014
	2.588	2.096	1.857	2.207	2.268	2.148
	1.600	2.575	2.117	2.017	1.955	2.489
	1.908	2.157	2.053	2.597	2.575	2.032
	1.771	1.903	2.392	2.221	2.540	2.396
	2.068	2.363	2.382	2.533	2.259	2.537
	1.858	2.426	2.309	2.229	2.341	2.126
	1.555	2.215	2.879	2.317	1.737	2.253
	1.793	1.906	2.072	2.356	2.151	2.017
	2.135	1.771	2.459	2.137	1.876	2.731
	1.814	2.649	2.645	2.100	1.803	2.147
	1.902	2.394	2.028	2.741	1.952	2.445
	2.766	2.236	1.965	2.475	2.346	1.998
	2.644	1.990	2.059	2.239	2.466	1.955
	1.976	2.114	2.350	1.674	2.085	1.843
	2.236	1.999	2.388	2.065	2.333	2.110
	2.307	2.344	2.065	2.692	1.819	1.709
	2.640	2.199	2.456	2.501	1.991	1.983
	1.899	1.796	1.771	2.251	1.948	1.698
	1.692	2.309	2.313	2.366	2.173	2.192
	2.371	2.271	2.714	2.425	1.856	2.157
	1.707	2.407	2.498	2.093	1.781	2.078
	2.653	2.465	2.439	1.899	2.287	2.217
	2.578	2.550	2.388	2.110	1.870	1.875
	2.328	2.297	2.613	1.924	2.281	1.739
	2.724	2.292	2.219	2.239	1.964	1.893
	2.529	2.415	2.440	2.103	1.899	1.818
	2.271	2.624	2.165	1.941	1.599	1.974
	2.517	2.002	2.905	2.420	2.028	1.913
	1.922	1.698	2.691	2.011	1.876	1.868
	2.489	2.250	2.214	1.815	1.669	2.092
	1.854	2.057	2.652	1.896	1.824	1.848
	2.269	1.980	2.405	2.674	1.817	1.862
	1.873	2.361	2.264	2.331	1.633	1.878
	2.301	2.488	2.453	1.953	1.764	1.833
	2.143	2.020	2.778	2.155	1.863	1.730
	2.329	1.806	2.728	2.613	1.939	2.104
	2.310	1.940	2.467	2.194	1.866	1.913
	2.780	1.966	2.236	2.004	2.436	2.258

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
2.462	1.634	2.192	2.229		1.826
2.736	2.231	2.071	2.032		1.960
2.450	2.172	2.162	1.572		2.305
2.522	2.184	2.318	1.901		1.969
2.268	1.800	1.794	1.961		2.042
1.682	2.578	2.406	1.770		1.991
2.331	2.649	1.891	1.867		1.896
2.739	2.351	2.097	2.233		1.870
2.037	2.733	2.758	2.358		2.143
2.474	2.106	2.725	1.619		1.890
2.464	1.648	2.115	2.167		2.014
2.756	2.203	2.161	2.187		2.333
2.414	1.482	1.848	2.109		2.233
2.599	2.983	2.206	1.761		2.166
2.504	2.394	2.003	1.978		2.367
1.690	1.998	2.274	1.947		2.144
2.614	1.872	2.582	2.486		2.126
1.953	2.258	2.141	2.035		2.078
2.319	2.073	2.450	2.112		2.733
2.042	2.108	1.979	1.908		2.290
2.384	1.673	2.208	1.639		1.739
2.345	3.346	1.950	2.053		1.763
2.126	2.101	2.521	1.858		2.698
1.986	2.375	2.401	1.744		1.959
2.861	1.870	2.214	1.999		2.055
2.033	2.499	2.641	1.550		2.419
	2.079	2.165	2.392		2.603
	2.216	2.476	2.987		2.086
	2.262	2.833			1.951
	2.190	2.233			2.071
	2.413	2.970			2.013
	2.137	2.017			1.833
	2.220	2.261			2.075
	2.159	2.997			2.310
	2.122	2.484			2.068
	2.405	1.980			2.233
	2.014	3.047			2.119
	1.926	2.386			1.858
	1.933	2.271			1.932
	1.852	2.432			1.952
	2.307	2.328			1.969
	2.170	2.098			1.766
	2.392	2.509			2.266
	2.653	2.306			1.991
		2.560			2.094
		2.466			2.091
		2.873			2.175
		2.210			2.437
		2.525			
		2.786			

Individual Egg Mass Statistics

N	76	94	100	78	50	98
Mean	2.224	2.201	2.351	2.191	2.078	2.101
Var. (S ²)	0.122	0.101	0.086	0.106	0.095	0.058
SEM	0.040	0.033	0.029	0.037	0.044	0.024

Combined Egg Mass Statistics

Total N	6
Site Mean	2.191
Var. (S ²)	0.010
SEM	0.040

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.501	2.139	2.787	2.311	2.771	2.623
DATE	1.984	2.320	2.747	2.185	2.874	2.544
05/17/00	2.034	1.768	2.389	2.046	2.519	2.956
	1.440	2.707	2.518	2.310	3.246	2.857
STUDY DAY	3.117	2.754	2.119	2.241	2.802	2.732
41	2.035	2.607	1.897	1.818	2.683	2.195
	2.447	2.458	2.298	2.386	2.759	2.152
STAGE	2.290	2.210	2.274	2.368	2.652	2.670
	2.736	2.293	2.233	2.843	2.947	2.506
	2.434	2.270	2.991	3.359	2.267	2.178
	2.101	2.808	2.097	2.760	1.999	2.572
	2.628	2.075	2.896	2.457	2.317	2.521
	1.898	1.841	2.414	2.522	2.554	2.483
	2.028	3.090	3.125	2.354	3.098	2.786
	1.835	2.931	2.213	2.306	2.627	2.469
	1.761	2.123	2.647	2.288	3.251	2.573
	2.898	2.425	2.322	2.282	3.038	2.197
	2.482	2.124	2.458	2.471	2.162	2.857
	1.908	2.963	2.678	2.321	2.806	1.753
	2.891	2.385	2.654	2.404	2.959	2.460
	1.747	2.498	2.344	1.952	2.622	2.579
	1.864	2.147	2.473	2.465	2.754	2.404
	1.815	2.358	2.286	2.772	1.714	2.641
	2.508	3.075	2.292	2.210	2.186	2.801
	2.648	2.231	3.010	2.376	1.888	2.433
	2.326	2.280	2.389	2.581	2.811	2.559
	3.293	3.269	3.206	2.388	2.293	2.625
	2.740	2.176	2.442	2.726	2.031	2.041
	1.999	3.161	2.489	2.157	1.912	2.278
	2.882	2.353	2.421	2.457	1.962	2.179
	3.299	2.541	2.709	1.949	1.860	2.264
	2.664	2.413	2.628	2.195	1.998	2.090
	2.632	2.855	2.915	2.173	2.085	2.096
	2.547	1.941	2.785	2.621	2.608	2.107
	2.620	2.433	1.984	2.657	2.177	2.075
	2.313	2.662	2.708	2.334	2.673	2.091
	2.379	2.592	2.109	2.393	2.874	1.816
	2.730	2.646	2.202	1.820		1.533
	3.099	3.099	3.166	1.929		2.074
	3.138	2.458	2.379	2.021		2.098
	2.810	2.083	2.732	2.705		2.652
	2.219	2.719	2.608	2.050		2.142
	3.117	2.188	2.477	2.033		2.245
	3.094	2.459	2.137	2.589		2.203
	2.922	2.470	2.592	2.121		2.294
	2.448	2.261	2.474	2.098		1.938
	3.454	2.667	2.159	2.742		2.038
	2.721	2.590	2.639	2.362		1.979
	2.953	2.430	2.286	2.142		2.291
	2.127	2.514	2.350	2.219		2.069

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.273	2.478	2.575	2.085		2.459
	2.058	2.417	2.143	2.081		1.918
	2.687	2.545	2.109	2.039		2.578
	3.069	2.661	2.042	2.167		2.371
	2.636	2.718	2.414	1.998		2.745
	2.322	1.992	2.095	2.338		2.252
	2.245	2.147	1.975	1.981		2.821
	2.309	2.440	2.228	1.864		2.375
	3.393	2.437	2.332	1.904		2.066
	2.521	2.263	2.445	2.160		3.049
	2.845	2.482	2.781	2.053		2.216
	2.452	2.257	2.602	2.251		2.056
	2.590	1.840	2.562	2.183		2.614
	2.294	3.096	2.461	1.986		2.205
	3.048	2.189	2.125	2.042		2.369
	2.454	2.310	2.271	1.962		2.187
	2.813	2.531	2.202	1.814		1.874
	2.675	3.083	2.262	2.663		1.961
	2.653	2.249	2.214	2.355		2.017
	1.989	2.056	2.409	2.597		2.776
	2.378	2.388	2.304	2.338		2.458
	2.448	2.346	2.182	2.786		2.658
	2.650	1.820	2.101	2.074		2.519
	2.636	2.075	2.379	2.222		2.283
	2.791	2.157	2.399	2.448		1.998
		2.512	2.374	2.718		2.084
		2.311	2.075	2.784		2.111
		2.082	2.324			2.036
		2.041	2.028			1.968
		2.803	2.630			2.042
		2.268	2.465			2.153
		2.204	2.488			2.051
		2.244	2.448			2.329
		2.330	2.180			2.427
		1.827	2.318			2.754
		2.320	2.719			2.103
		2.201	2.300			2.031
		2.877	2.592			2.677
		1.876	2.407			2.180
		1.964	2.684			2.247
		2.264	2.220			2.298
		2.913	2.941			2.186
			2.064			2.454
			2.132			2.139
			2.250			2.216
			2.454			
			2.438			
			2.217			
			2.601			
			2.688			
<hr/>						
Individual Egg Mass Statistics						
N	75	92	100	77	37	95
Mean	2.517	2.412	2.428	2.301	2.507	2.316
Var. (S ²)	0.187	0.114	0.076	0.086	0.179	0.087
SEM	0.050	0.035	0.028	0.034	0.070	0.030
 Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.414					
Var. (S ²)	0.008					
SEM	0.037					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.701	3.338	2.991	3.061	3.127	2.385
DATE	3.618	2.688	2.687	1.987	2.804	2.801
05/22/00	2.382	3.139	2.734	2.885	3.692	2.783
	3.031	2.868	2.033	2.652	3.085	1.832
STUDY DAY	1.961	3.801	2.750	2.818	3.599	2.631
46	3.784	3.170	2.486	2.815	2.390	2.334
	2.398	2.699	3.276	2.665	2.662	2.959
STAGE	2.981	2.986	3.078	2.568	2.956	3.329
35	2.567	3.601	2.397	2.255	4.280	2.905
	3.073	3.037	2.594	2.447	2.601	2.583
	2.736	2.758	2.336	2.567	3.049	3.097
	2.646	2.522	2.286	2.346	2.476	2.446
	1.967	2.638	2.865	2.973	2.347	2.295
	2.867	2.772	2.383	3.990	3.339	2.328
	2.740	3.065	2.870	2.932	2.362	2.892
	2.081	2.373	2.120	2.717	2.734	2.354
	2.956	2.390	2.300	3.120	2.557	2.668
	3.209	2.863	2.523	3.030	2.959	2.659
	2.573	2.665	3.240	3.027	2.879	2.693
	2.346	2.888	3.577	2.430	2.755	2.176
	3.029	3.467	2.435	3.128	3.837	2.533
	3.152	2.865	2.604	2.596	3.174	2.529
	3.445	2.649	1.924	2.947	3.063	2.935
	2.801	2.332	2.733	3.084	3.397	2.352
	2.785	1.904	2.801	2.612	2.219	2.283
	2.892	2.817	3.295	2.479	3.305	2.094
	3.554	2.474	2.876	2.604	2.944	2.399
	2.581	1.913	2.523	3.174	2.675	2.004
	3.571	2.774	2.504	2.682	2.317	1.930
	3.944	2.375	2.753	2.802	2.601	2.104
	2.574	2.360	2.326	2.528		2.054
	2.478	2.320	3.182	2.946		1.802
	2.942	2.177	2.460	2.856		2.529
	3.519	2.129	3.280	2.918		2.186
	2.452	3.211	2.584	2.250		2.125
	3.314	2.196	2.596	2.327		2.742
	3.100	2.583	2.866	2.396		2.089
	2.951	2.720	2.840	2.261		2.162
	3.358	2.792	3.284	2.227		2.293
	2.702	2.367	3.056	2.526		2.452
	3.170	2.637	2.699	2.799		2.202
	2.322	2.994	2.787	3.320		1.670
	2.754	2.909	1.876	2.836		2.046
	2.382	2.075	2.714	3.662		2.512
	3.269	3.038	2.951	2.136		2.338
	3.108	2.354	2.388	2.667		2.430
	2.572	3.634	2.930	2.268		2.323
	2.992	3.676	2.151	2.496		2.238
	2.592	2.193	2.950	2.044		2.643
	2.512	3.213	2.722	3.006		2.659

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	2.511	2.670	2.981	2.660		2.466
	2.921	2.695	2.143	2.739		2.509
	2.844	2.174	2.813	2.427		2.277
	2.965	2.164	2.790	2.261		2.121
	2.706	2.643	2.972	2.928		2.792
	2.750	2.602	2.842	2.387		1.994
	2.324	2.655	2.942	2.484		2.526
	2.628	2.059	2.677	2.489		2.005
	2.870	2.990	2.790	2.776		2.667
	3.218	2.173	2.735	2.095		2.820
	3.145	2.693	2.598	2.647		2.614
	2.917	2.408	3.165	2.877		1.903
	3.221	2.265	2.708	2.956		2.154
	2.792	2.289	2.476	2.382		2.008
	3.535	1.900	2.568	2.152		2.041
	2.879	2.981	2.724	2.209		2.358
	2.432	1.979	2.702	2.828		2.481
	4.338	2.109	3.298	3.201		1.732
	2.789	2.243	2.791	2.181		2.280
	2.382	2.424	2.754	2.708		1.906
	3.302	3.571	2.426	2.542		2.144
	2.449	2.562	3.017	2.882		1.951
	3.821	2.252	3.026	2.482		2.107
		2.385	2.461	3.011		1.818
		2.504	2.450	2.493		2.259
		2.368	2.818			1.967
		2.748	2.374			2.466
		2.540	2.661			2.358
		2.279	2.532			2.541
		2.318	2.404			2.211
		2.523	2.395			2.552
		2.253	2.847			2.527
		1.982	2.704			2.339
		2.850	3.603			2.719
		2.158	2.562			2.289
		1.930	2.618			2.496
		2.737	2.617			2.572
		2.326	2.630			2.523
			2.441			1.945
			2.129			2.236
			2.708			
			2.791			
			2.284			
			2.382			
			2.264			
			2.901			
			2.307			
			2.274			
			2.180			
			2.133			
<hr/>						
Individual Egg Mass Statistics						
N	73	88	100	75	30	90
Mean	2.893	2.612	2.670	2.675	2.940	2.361
Var. (S ²)	0.211	0.192	0.116	0.134	0.241	0.105
SEM	0.054	0.047	0.034	0.042	0.090	0.034
Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.692					
Var. (S ²)	0.044					
SEM	0.085					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	3.785	4.072	4.035	4.263	3.880	3.490
DATE	3.875	3.330	2.445	3.379	3.485	3.866
06/02/00	4.181	3.061	2.642	4.572	4.288	3.469
	2.479	2.910	3.199	2.976	4.342	2.619
STUDY DAY	3.522	3.582	3.567	3.299	3.523	3.298
57	3.073	3.918	3.833	4.576	2.823	3.534
	3.680	3.372	2.747	3.191	4.303	3.324
STAGE	3.431	2.921	3.364	3.983	3.884	3.454
38	2.899	4.386	3.146	3.269	2.452	3.378
	3.225	2.768	4.256	3.542	3.446	2.424
	2.997	3.210	4.003	3.407	3.566	2.546
	3.570	4.159	3.857	4.261	3.558	3.720
	3.509	3.736	3.067	1.948	3.839	3.831
	3.964	3.982	3.313	3.394	3.514	3.857
	3.802	2.891	3.583	3.634	3.821	3.225
	3.242	4.064	2.609	2.831	3.620	3.362
	3.461	3.478	2.631	3.210	3.443	2.582
	3.305	4.003	4.657	3.642	3.967	3.491
	2.605	3.263	2.526	2.995	4.297	2.944
	3.914	3.266	3.390	3.277	4.211	3.369
	3.021	3.210	2.716	3.343	3.367	3.583
	3.998	2.894	3.612	2.947	3.683	2.224
	4.430	3.691	4.152	4.254	3.162	2.010
	4.399	3.507	4.004	2.599	3.231	3.567
	4.068	3.646	3.170	3.420	4.628	2.736
	3.897	3.735	3.621	4.445	3.442	2.793
	3.872	4.068	2.894	3.222	3.820	3.106
	3.031	4.279	3.957	3.701	4.111	2.464
	4.278	4.324	3.231	2.544	3.082	3.758
	3.436	3.591	2.787	3.513	3.697	2.648
	3.527	4.494	2.524	3.266		2.525
	3.329	4.334	4.244	2.948		3.133
	3.279	2.497	3.014	3.342		2.285
	4.442	3.160	3.626	2.413		2.726
	3.255	3.357	3.987	2.725		2.183
	3.611	3.244	2.125	3.184		2.637
	3.894	3.429	2.700	3.463		2.532
	3.749	2.324	3.530	3.260		2.697
	2.529	2.691	3.174	2.753		3.101
	3.533	4.073	3.000	3.675		3.113
	3.610	4.628	3.381	3.640		2.621
	4.007	3.055	3.033	2.881		3.038
	4.104	4.330	3.067	3.302		4.213
	3.927	3.306	2.820	4.110		3.597
	3.743	2.991	3.344	3.028		2.736
	3.188	4.457	2.676	2.595		3.081
	3.484	4.747	3.787	3.399		3.290
	3.020	3.945	3.987	4.131		2.413
	3.441	5.095	3.952	2.802		3.843
	3.232	3.945	3.576	4.177		2.212

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
3.114	4.777	4.027	3.364		2.326
3.599	3.414	4.189	2.652		2.588
3.742	4.220	2.849	3.747		3.180
3.397	3.819	3.673	2.412		3.391
2.934	4.601	3.056	3.472		4.347
2.505	4.384	3.306	3.231		3.673
3.575	4.742	4.042	2.881		2.292
3.138	3.947	2.510	2.700		3.166
2.816	4.042	2.799	2.683		2.865
3.316	4.790	3.461	2.855		2.924
3.956	4.760	3.834	3.134		3.114
4.269	3.603	3.244	3.370		2.835
3.479	2.912	3.055	3.270		3.227
3.301	2.362	2.911	3.589		2.737
3.468	2.669	3.674	3.554		3.739
2.742	3.320	3.054	3.545		3.317
3.580	3.427	3.599	3.329		2.962
2.898	3.369	3.443	3.009		2.776
	3.084	3.157	4.182		2.633
	2.868	4.160	3.707		2.951
	2.472	3.061	2.995		3.329
	3.936	3.318	4.591		2.022
	4.120	3.035	3.943		2.931
	2.544	3.640	4.151		2.949
	3.387	4.336			3.344
	3.395	2.452			2.975
	3.863	3.553			2.841
	2.570	3.037			2.710
	3.963	3.821			2.494
	3.621	3.003			2.413
	2 larvae missing from count	4.308			3.300
		3.133			2.927
		3.582			3.002
		3.134			2.718
		2.689			2.985
		3.158			3.152
		3.187			2.407
		3.391			
		3.259			
		3.959			
		3.844			
		3.732			
		3.385			
		3.127			
		3.041			
		3.465			
		3.481			

Individual Egg Mass Statistics

N	68	80	97	74	30	87
Mean	3.495	3.630	3.358	3.366	3.683	3.014
Var. (S ²)	0.225	0.441	0.270	0.317	0.229	0.251
SEM	0.057	0.074	0.053	0.065	0.087	0.054

Combined Egg Mass Statistics

Total N	6
Site Mean	3.424
Var. (S ²)	0.058
SEM	0.098

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
	4.109	4.438	3.025	3.289		4.400
DATE		1.789	2.188			4.221
07/20/00		4.624	3.303			4.750
						1.638
STUDY DAY						3.989
105						3.690
						3.723
STAGE						3.039
41						

Individual Egg Mass Statistics

N	1	3	3	1	0	8
Mean	4.109	3.617	2.838	3.289	na	3.681
Var. (S ²)	na	2.515	0.337	na	na	0.948
SEM	na	0.916	0.335	na	na	0.344

Combined Egg Mass Statistics

Total N	5
Site Mean	3.507
Var. (S ²)	0.225
SEM	0.212

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 22 (46-VP-5) (2.2 mg/kg Sediment PCB Concentration)

	0-EM06	0-EM07	0-EM08	0-EM09	0-EM10	1-EM10
DATE			3.482			
08/10/00			2.302			
STUDY DAY						
126						
STAGE						
27						

Individual Egg Mass Statistics

N	0	0	2	0	0	0
Mean	na	na	2.892	na	na	na
Var. (S ²)	na	na	0.696	na	na	na
SEM	na	na	0.590	na	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	2.892
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	22	2.035	1.749	1.828	1.909	1.937
45	25	2.325	2.340	2.365	2.267	2.381
73	30	3.210	2.882	3.114	2.878	3.071
104	32	3.953	3.157	3.575	3.678	3.923
135	31	4.246	na	3.779	4.088	3.967
156	36	4.445	na	3.867	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	0.019	0.018	0.018	0.020	0.018
45	0.035	0.033	0.033	0.041	0.051
73	0.076	0.097	0.082	0.094	0.096
104	0.085	0.269	0.093	0.110	0.182
135	0.116	na	0.148	0.107	0.138
156	0.114	na	0.254	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	2.259	1.918	1.841	1.994	2.220	
DATE	2.002	1.969	1.784	1.981	2.014	
04/21/00	2.205	1.729	1.803	1.893	2.043	
	2.390	1.760	2.130	2.099	2.097	
STUDY DAY	2.127	1.774	1.620	1.950	1.908	
10	2.374	1.558	1.841	1.437	2.197	
	2.409	1.763	1.942	1.886	2.153	
STAGE	2.113	1.832	1.708	1.875	1.906	
22	2.273	1.689	2.059	2.040	2.323	
	1.859	1.703	2.063	2.086	1.809	
	1.809	1.831	1.881	1.737	2.265	
	1.962	1.695	1.884	1.780	2.021	
	2.113	1.857	1.748	2.175	2.145	
	1.831	1.981	2.006	1.991	2.307	
	2.122	1.987	1.469	2.145	1.875	
	2.058	1.488	1.867	1.949	1.743	
	2.026	1.645	1.999	1.910	1.890	
	1.873	1.918	1.817	1.899	1.789	
	2.092	1.661	1.925	1.689	1.917	
	2.056	1.893	1.632	2.043	2.039	
	1.881	1.974	1.693	1.949	1.970	
	1.599	1.676	2.069	2.005	1.862	
	2.043	2.031	1.736	1.990	1.837	
	1.968	1.639	1.749	1.676	1.816	
	2.077	1.979	1.766	1.888	2.185	
	2.398	1.612	1.839	1.964	2.237	
	1.983	1.698	1.643	1.847	1.846	
	1.941	1.372	1.904	1.871	2.145	
	2.427	1.534	1.541	2.194	1.989	
	2.025	1.753	1.690	2.145	2.001	
	1.789	1.346	1.879	1.667	2.202	
	1.711	1.582	1.777	1.689	2.124	
	1.925	1.461	1.765	1.803	2.039	
	2.234	1.469	2.091	1.903	1.972	
	1.929	1.899	2.012	1.702	2.323	
	1.921	1.233	1.622	1.848	2.097	
	1.893	1.712	1.733	1.665	2.009	
	2.127	1.584	1.753	2.034	1.858	
	2.065	1.917	1.805	2.109	1.934	
	1.977	1.688	1.768	1.480	2.026	
	1.480	1.720	1.821	1.893	1.775	
	1.643	1.455	2.049	1.875	1.901	
	1.906	1.722	2.561	2.109	2.128	
	1.872	1.715	2.045	2.077	2.033	
	1.965	1.667	2.012	1.841	1.760	
	2.082	1.684	1.930	2.259	2.214	
	1.765	1.861	2.142	1.937	2.063	
	1.940	1.825	1.925	1.957	1.870	
	1.938	1.849	1.679	1.910	1.721	
	1.933	1.733	2.061	1.853	2.039	
	2.281	1.841	1.809	1.909	1.831	
	2.089	1.869	1.781	1.999	2.085	
	2.158	1.715	1.710	2.025	1.875	
	1.968	1.724	1.684	1.745	1.962	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
1.879	1.715	1.941	1.940	1.731	
1.807	1.655	1.635	1.511	1.809	
2.294	1.758	1.933	1.689	1.650	
1.990	1.777	1.899	1.667	2.000	
1.785	2.073	1.605	1.748	1.839	
2.161	1.782	1.933	1.516	1.826	
2.169	1.786	1.818	1.538	1.690	
2.106	1.772	2.066	1.655	1.683	
2.083	2.137	1.680	1.879	1.877	
2.183	1.800	1.818	1.715	1.740	
2.097	1.618	2.129	1.665	1.756	
2.002	1.849	2.091	1.937	2.130	
1.968	1.727	1.723	1.941	1.745	
1.918	1.835	1.928	1.342	2.097	
2.012	1.683	1.817	1.875	1.739	
2.328	1.910	1.682	1.875	1.988	
2.066	1.999	1.789	1.840	1.789	
2.107	1.544	1.968	1.748	2.009	
2.076	1.862	1.942	1.806	1.816	
2.078	1.551	2.006	1.816	1.999	
2.497	1.693	1.760	1.650	1.743	
2.164	2.000	1.772	2.141	1.721	
2.127	1.789	1.965	2.131	2.009	
1.917	1.589	1.830	1.766	1.739	
2.106	1.859	1.737	1.753	2.130	
1.974	2.005	1.565	2.089	1.565	
2.385	1.886	1.745	1.784	2.006	
1.942	1.918	1.483	2.158	2.059	
2.175	1.857	1.512	1.706	1.665	
1.955	1.592	1.746	2.438	1.484	
2.307	1.717	1.839	2.112	2.012	
2.043	1.959	1.557	2.040	1.821	
2.152	1.965	1.566	2.103	1.817	
1.942	1.544	1.906	2.012	2.138	
1.929	1.415	1.760	2.055	1.816	
2.291	1.597	1.757	1.831	1.970	
1.745		1.676	1.945	1.792	
2.156		1.657	1.936	1.898	
2.049		2.004	2.247	2.013	
2.041		1.765	2.039	1.802	
1.959		1.348	2.290	2.069	
1.753		1.679	2.305	1.974	
1.953		2.179	2.194	2.046	
1.877		1.904	2.097	1.597	
		1.925	1.968	1.625	
		1.677	2.065		

Individual Egg Mass Statistics

N	98	90	100	100	99
Mean	2.035	1.749	1.828	1.909	1.937
Var. (S ²)	0.035	0.030	0.033	0.040	0.032
SEM	0.019	0.018	0.018	0.020	0.018

Combined Egg Mass Statistics

Total N	5
Site Mean	1.892
Var. (S ²)	0.012
SEM	0.049

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	2.814	2.098	2.682	2.167	2.481	
DATE	1.849	2.173	2.145	2.829	2.067	
05/26/00	2.063	2.065	2.328	2.398	2.252	
	2.477	2.278	2.445	1.557	2.194	
STUDY DAY	2.331	2.100	2.850	1.654	2.238	
45	2.266	2.033	2.377	1.682	2.509	
	1.723	2.762	2.258	1.997	1.501	
STAGE	1.649	2.103	2.092	2.712	2.485	
25	2.405	2.037	1.977	2.658	2.033	
	2.850	2.097	2.173	2.863	1.981	
	1.942	2.386	2.487	2.635	2.595	
	2.469	2.438	2.258	2.179	2.253	
	2.326	2.473	2.898	2.033	2.588	
	2.256	2.298	2.183	2.106	1.989	
	2.660	3.069	1.821	2.325	1.809	
	2.576	2.858	2.197	2.202	2.457	
	2.521	2.170	2.410	1.950	2.275	
	2.197	2.607	2.040	2.177	2.652	
	2.733	1.959	2.849	2.494	2.235	
	2.613	1.643	2.459	2.292	1.839	
	1.886	2.884	2.467	2.203	2.199	
	1.938	2.199	2.582	2.153	2.477	
	2.115	2.208	2.408	1.875	2.519	
	2.358	2.526	2.555	1.761	3.353	
	2.445	2.604	2.615	2.285	2.469	
	2.025	2.253	2.784	2.025	2.258	
	2.941	2.003	2.244	2.558	2.275	
	2.334	2.387	2.020	2.199	1.942	
	1.558	2.481	2.975	2.404	2.264	
	2.562	2.500	2.209	2.202	1.762	
	2.031	2.346	2.286	2.685	1.997	
	2.121	2.326	2.222	2.130	2.328	
	2.237	2.234	2.301	1.739	2.267	
	2.330	2.341	2.294	1.645	2.526	
	2.580	2.341	2.167	2.000	2.908	
	2.227	2.213	1.867	1.830	2.358	
	2.824	2.556	1.865	3.123	2.241	
	2.012	2.162	2.620	2.309	2.450	
	2.459	1.648	1.872	2.081	1.939	
	1.881	2.317	2.428	2.177	2.066	
	2.071	2.457	2.284	2.699	3.393	
	2.380	2.429	2.164	1.994	3.001	
	2.465	2.429	2.601	1.823	2.776	
	2.584	2.129	2.271	1.793	2.483	
	2.318	2.448	2.708	2.350	2.762	
	2.657	2.558	2.194	2.043	2.809	
	2.194	2.366	2.077	2.001	3.129	
	1.888	2.016	2.497	2.614	2.525	
	1.956	2.251	2.889	2.518	2.205	
	2.254	2.673	2.158	2.296	2.355	
	2.113	2.510	2.469	2.075	3.181	
	2.179	2.540	2.751	2.244	2.035	
	2.300	2.517	2.247	1.657	2.854	
	2.848	2.691	2.660	2.633	2.194	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
1.942	2.324	2.614	2.075	2.561	
2.663	2.025	2.449	1.698	2.217	
2.398	2.339	1.921	2.247	2.196	
1.981	2.505	1.925	2.937		
1.846	2.781	2.191	2.652		
2.790	2.420	2.616	2.505		
2.465	2.348	2.353	2.066		
1.749	2.518	2.273	2.650		
2.121	2.294	1.950	2.445		
2.348	2.049	2.101	2.259		
2.901		2.258	1.985		
2.271		2.546	2.067		
2.372		2.747	1.584		
2.010		2.281	2.210		
2.614		2.961	3.277		
2.533		2.292	2.518		
2.393		2.175	2.129		
2.626		2.353	2.537		
2.602		2.481	2.401		
2.921		2.273	3.055		
2.904		2.142	1.980		
2.556		2.194	2.897		
2.727		2.499	1.881		
1.501		3.170	3.085		
1.899			2.045		
2.185			2.522		
2.411			2.581		
2.438			2.618		
2.440			2.345		
2.261			2.337		
2.376			2.066		
2.165					
2.049					
2.841					
2.438					
2.756					

Individual Egg Mass Statistics

N	90	64	78	85	57
Mean	2.325	2.340	2.365	2.267	2.381
Var. (S^2)	0.111	0.071	0.085	0.144	0.148
SEM	0.035	0.033	0.033	0.041	0.051

Combined Egg Mass Statistics

Total N	5
Site Mean	2.336
Var. (S^2)	0.002
SEM	0.020

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
DATE	2.359	3.148	4.646	4.102	3.706	
06/23/00	4.265	2.605	2.764	3.253	3.243	
	4.057	3.161	3.179	3.538	2.955	
	2.612	3.512	3.816	4.412	3.554	
STUDY DAY	4.441	2.039	4.148	2.933	3.021	
73	4.057	2.844	3.185	2.952	3.280	
	4.167	3.075	3.076	2.420	4.074	
STAGE	2.098	1.564	4.869	3.862	2.926	
30	3.536	2.347	3.086	3.043	2.401	
	3.890	2.139	2.731	4.087	2.819	
	2.654	3.362	2.794	2.695	2.401	
	2.907	3.108	3.677	3.830	3.355	
	3.732	3.428	3.097	2.632	2.446	
	3.820	2.838	2.971	2.464	2.986	
	3.419	1.843	2.454	2.133	3.045	
	3.215	2.050	3.382	3.281	3.282	
	3.565	2.659	2.656	2.946	2.205	
	3.035	2.780	2.745	2.586	2.791	
	2.337	3.377	2.650	2.190	3.476	
	3.029	2.302	2.716	1.832	2.116	
	3.760	3.076	2.841	4.321	3.922	
	3.655	2.684	2.585	3.655	2.958	
	2.645	2.207	2.828	3.336	3.497	
	1.673	2.489	4.023	3.073	4.084	
	3.021	2.285	2.928	2.956	4.538	
	3.318	3.120	2.341	2.341	2.664	
	3.618	2.858	3.119	3.497	2.870	
	4.268	3.504	2.297	3.264	2.084	
	3.263	3.389	2.693	2.257	3.460	
	3.379	2.669	2.664	2.901	2.443	
	2.756	3.532	3.415	2.252	2.875	
	3.116	3.724	2.462	2.034	2.357	
	3.491	3.468	3.770	3.380	3.176	
	3.881	3.274	2.023	2.460	3.331	
	3.116	2.718	2.323	2.618	2.998	
	3.635	3.167	2.350	2.989	3.199	
	3.516	4.290	2.801	3.010		
	3.578		2.948	2.415		
	3.498		3.596	1.862		
	3.774		3.286	1.771		
	2.962		3.228	4.244		
	2.640		3.671	2.944		
	3.961		3.419	2.727		
	3.993		4.407	2.487		
	3.634		2.976	2.570		
	3.534		3.547	3.554		
	2.807		1.963	2.885		
	1.888		2.380	2.194		
	4.076		2.813	2.178		
	2.196		3.349	2.308		
	3.746		3.351	2.084		
	2.145		4.209	3.724		
	2.837		3.547	1.843		
	2.454		3.498	2.875		

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
2.123		3.579	1.573		
3.447		3.060	3.366		
3.707		3.152	1 larvae missing		
2.064		2.519	from count		
2.677					
2.885					
3.173					
2.715					
3.153					
2.944					
4.671					
2.897					
2.698					
2.459					
4.087					
2.614					
2.853					
4.046					
3.188					
2.147					
2.467					
3.405					
3.740					

Individual Egg Mass Statistics

N	77	37	58	56	36
Mean	3.210	2.882	3.114	2.878	3.071
Var. (S^2)	0.450	0.346	0.387	0.493	0.332
SEM	0.076	0.097	0.082	0.094	0.096

Combined Egg Mass Statistics

Total N	5
Site Mean	3.031
Var. (S^2)	0.022
SEM	0.066

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	4.176	2.381	3.949	3.613	4.531	
DATE	4.125	3.261	3.076	3.333	3.968	
07/24/00	3.300	2.521	4.337	4.259	3.908	
	3.605	3.656	3.615	3.462	4.129	
STUDY DAY	4.133	4.403	3.878	2.542	4.486	
104	3.193	2.685	3.615	4.625	2.987	
	4.377	3.192	5.697	3.541	3.916	
STAGE	4.476		5.197	2.652	3.393	
32	3.989		4.814	3.815	3.507	
	3.491		3.672	2.628	3.040	
	3.713		3.321	3.894	3.353	
	3.669		3.579	4.741	4.336	
	4.476		2.846	3.566	3.249	
	3.923		2.626	2.535	3.198	
	3.714		3.607	3.685	3.132	
	4.969		2.904	3.534	3.668	
	3.991		3.420	4.335	3.026	
	3.695		2.876	3.622	4.134	
	3.559		3.359	4.205	4.815	
	4.597		2.830	3.151	6.124	
	4.698		3.227	3.649	5.490	
	2.856		2.988	2.428		
	4.270		2.701	3.814		
	4.666		3.193	3.787		
	4.545		2.671	2.778		
	4.420		3.613	4.328		
	4.389		5.575	2.949		
	3.901		3.569	4.712		
	2.704		3.833	4.937		
	3.281		3.980	3.888		
	4.091		2.943	3.497		
	2.524		3.913	2.442		
	4.658		2.713	3.970		
	3.791		3.235	3.257		
	3.482		2.974	5.285		
	4.718		3.171	4.140		
	4.726		3.317	2.971		
	4.313		4.044	5.406		
	3.253		3.017	3.659		
	3.248		2.652	4.746		
	3.466		3.131	4.867		
	3.362		3.605	3.001		
	3.726		3.130	2.771		
	4.302		3.789	3.441		
	4.001		3.319	3.236		
	2.488		3.017	3.345		
	4.897		3.625	3.975		
	5.325		5.118	3.157		
	4.942		3.971	3.627		
	3.579		3.915	5.150		
	3.390		3.829	4.885		
	4.199		3.867	2.786		
	4.494		2.654	2.329		
	4.034		4.530			

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
3.325		3.574			
4.112		4.055			
		3.808			
		3.866			

Individual Egg Mass Statistics

N	56	7	58	53	21
Mean	3.953	3.157	3.575	3.678	3.923
Var. (S ²)	0.403	0.507	0.497	0.641	0.697
SEM	0.085	0.269	0.093	0.110	0.182

Combined Egg Mass Statistics

Total N	5
Site Mean	3.657
Var. (S ²)	0.104
SEM	0.144

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	5.380		5.019	5.077	3.854	
DATE	4.504		5.796	4.901	3.767	
08/24/00	3.910		3.992	4.935	4.339	
	3.491		5.281	5.112	3.841	
STUDY DAY	4.521		4.825	4.995	3.920	
135	4.474		4.369	4.105	3.916	
	4.498		3.881	4.815	3.501	
STAGE	5.647		4.966	5.504	4.446	
31	4.259		4.614	5.016	5.087	
	4.798		4.509	3.573	3.203	
	4.831		3.283	3.747	3.511	
	4.033		4.252	3.938	4.729	
	4.251		3.275	5.034	3.892	
	3.691		2.316	3.550	3.531	
	3.617		2.410	3.503		
	4.386		5.561	4.949		
	4.710		3.370	3.973		
	3.637		2.856	3.944		
	4.448		2.822	4.785		
	4.044		2.303	3.565		
	4.194		3.132	3.031		
	4.032		3.337	3.258		
	3.864		3.495	4.312		
	3.240		4.710	4.298		
	4.037		2.987	5.131		
	5.191		2.986	3.607		
	2.814		3.648	4.181		
	3.368		3.418	3.646		
	4.147		3.298	3.314		
	3.654		4.068	3.991		
	5.459		2.882	2.071		
	4.735		3.764	2.984		
			4.087	4.536		
			4.212	3.622		
			3.071	3.364		
			3.408	3.253		
			3.630	3.854		
				3.493		
				5.032		
				3.483		
				3.925		
				4.677		
				3.874		
				3.012		
				4.168		
				3.962		
				4.733		
				4.404		
<hr/>						
Individual Egg Mass Statistics						
N	32	0	37	48	14	
Mean	4.246	na	3.779	4.088	3.967	
Var. (S ²)	0.429	na	0.807	0.550	0.268	
SEM	0.116	na	0.148	0.107	0.138	
 Combined Egg Mass Statistics						
Total N	4					
Site Mean	4.020					
Var. (S ²)	0.039					
SEM	0.098					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 27 (18-VP-2) (6.05 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	0
	5.570		3.462			
DATE	4.439		3.334			
09/14/00	4.525		5.422			
	4.659		4.000			
STUDY DAY	4.656		4.162			
156	4.242		2.982			
	4.099		4.014			
STAGE	4.119		3.073			
36	3.886		4.353			
	4.950					
	4.029					
	4.706					
	4.911					
	3.426					
	4.410					
	4.468					
	4.820					
	4.097					

Individual Egg Mass Statistics

N	18	0	9	0	0
Mean	4.445	na	3.867	na	na
Var. (S^2)	0.233	na	0.580	na	na
SEM	0.114	na	0.254	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	4.156
Var. (S^2)	0.167
SEM	0.289

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)
 DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
16	21	2.025	1.966	1.956	1.918	1.774	1.917
52	32	3.612	3.632	2.572	2.709	2.685	3.172
79	38	na	na	na	2.970	3.008	na
110	42	na	na	na	3.758	3.399	na
118	42	na	na	na	3.198	3.270	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
16	0.025	0.044	0.026	0.023	0.020	0.023
52	0.180	0.606	na	0.062	0.069	0.067
79	na	na	na	0.062	0.123	na
110	na	na	na	0.307	0.265	na
118	na	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	2.168	1.760	2.007	2.006	1.761	2.129
DATE	2.079	2.115	2.067	1.847	2.108	1.794
04/24/00	2.227	1.856	2.193	2.168	1.644	1.932
	2.117	1.696	1.772	2.104	1.638	2.036
STUDY DAY	1.988	1.968	1.876	2.238	1.841	1.830
16	2.195	1.732	1.966	1.892	1.697	1.427
	1.948	1.973	1.685	2.069	1.764	1.609
STAGE	1.729	1.988	1.985	2.111	1.693	1.958
21	2.203	1.845	2.041	1.511	2.035	1.808
	2.184	1.947	2.205	2.124	1.704	2.085
	1.971	1.838	2.055	2.164	2.355	2.283
	2.165	1.830	2.026	2.104	1.734	1.765
	2.095	1.941	1.829	1.950	1.393	1.658
	1.947	1.975	1.988	1.893	1.706	2.087
	2.198	2.248	1.971	1.973	1.946	1.694
	2.388	2.271	1.759	1.999	1.784	2.210
	2.384	2.056	2.000	1.864	1.949	2.029
	1.988	2.110	1.977	2.164	1.613	1.874
	2.146	2.099	2.026	1.977	1.707	2.018
	1.807	1.840	2.120	1.957	1.923	1.493
	1.898	1.710	1.920	1.783	1.922	1.718
	2.018	2.294	1.862	1.880	2.184	1.935
	2.179	1.965	1.938	1.973	1.642	1.613
	1.792	1.822	2.114	1.455	2.055	1.568
	1.956	2.239	2.030	2.166	1.611	2.088
	1.813	1.440	1.794	2.116	1.539	1.607
	2.009	2.514	1.835	2.214	1.450	2.369
	2.073		1.849	1.988	1.820	1.839
	1.927		2.070	1.922	1.988	1.908
	1.911		1.889	2.034	1.771	1.932
	1.882		2.061	2.111	1.797	1.720
	1.966		1.529	2.069	1.864	2.043
	1.800		2.135	1.754	1.938	2.027
	1.765		1.920	1.851	2.022	1.854
	2.007		1.973	1.845	1.934	2.243
	2.117		2.060	2.108	1.813	2.324
	1.983		1.595	2.206	1.811	2.036
	1.980		2.022	1.783	2.106	1.935
	1.921		2.224	1.830	1.598	2.126
	2.095		1.864	1.546	1.942	2.094
			1.827	1.694	1.665	1.934
			2.137	1.800	1.760	1.684
			1.571	1.418	1.771	2.048
			2.298	1.693	1.426	1.946
				2.242	2.018	2.067
				1.718	2.022	1.986
				1.765	2.166	1.515
				2.077	2.031	1.803
				1.946	1.911	1.813
				1.961	1.493	1.841
				1.862	1.988	1.977
				1.744	1.796	1.876
				2.305	1.926	1.876
				1.865	1.596	2.131

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
			1.917	1.915	1.713
			1.886	1.522	1.783
			2.128	1.971	1.807
			1.934	1.765	1.720
			1.887	1.794	2.032
			1.951	1.524	1.995
			2.347	1.649	2.168
			2.129	1.856	1.897
			1.730	1.556	1.838
			1.976	1.897	2.029
			1.863	2.004	1.777
			2.165	1.728	2.111
			1.845	1.449	2.152
			2.065	1.780	1.958
			1.951	1.837	1.780
			2.146	1.525	1.827
			1.586	1.862	2.003
			2.104	1.427	2.052
			2.300	1.727	2.019
			2.034	1.758	2.024
			1.818	1.597	
			1.499	1.740	
			1.385	1.484	
			1.812	1.503	
			2.129	1.822	
			1.586	1.686	
			1.468	1.579	
			1.938	1.750	
			1.595	1.874	
			1.898	1.516	
			1.785	1.858	
			2.374	1.576	
			1.830	1.703	
			1.625	1.757	
			1.848	1.711	
			1.634	1.850	
			1.886	1.951	
			2.098	1.696	
			2.092	1.537	
			1.298	1.659	
			1.907		
			1.626		
			2.153		

Individual Egg Mass Statistics

N	40	27	44	97	94	74
Mean	2.025	1.966	1.956	1.918	1.774	1.917
Var. (S^2)	0.025	0.051	0.029	0.051	0.037	0.039
SEM	0.025	0.044	0.026	0.023	0.020	0.023

Combined Egg Mass Statistics

Total N	6
Site Mean	1.926
Var. (S^2)	0.007
SEM	0.034

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	3.613	3.027	2.572	2.880	2.589	3.331
DATE	3.790	4.238		2.522	2.060	3.036
05/30/00	3.400			2.807	3.835	3.090
	3.098			2.345	4.085	3.229
STUDY DAY	3.517			2.935	3.027	
52	4.371			2.994	2.924	
	4.126			2.464	3.441	
STAGE	4.585			2.644	2.041	
32				3.122	3.371	
				2.900	2.730	
				2.674	2.551	
				3.121	2.710	
				2.800	2.253	
				3.184	3.699	
				2.478	2.701	
				3.728	3.296	
				2.684	2.846	
				2.889	2.126	
				3.902	3.541	
				3.672	3.207	
				3.536	2.429	
				3.186	2.631	
				1.896	2.515	
				3.250	3.200	
				2.010	2.535	
				2.404	1.778	
				2.693	3.204	
				2.608	2.667	
				2.596	2.583	
				2.894	3.109	
				2.293	3.099	
				2.510	2.832	
				2.099	2.783	
				2.459	1.725	
				3.003	3.012	
				2.594	2.442	
				3.086	2.667	
				2.611	2.470	
				2.291	2.394	
				2.570	2.805	
				1.963	2.259	
				2.152	2.167	
				2.335	2.253	
				2.466	2.313	
				2.382	2.783	
				3.206	2.459	
				2.981	1.849	
				2.940	3.014	
				2.532	2.093	
				2.018	2.152	
				2.047	2.880	
				2.510	2.931	
				2.690	2.437	
					2.107	
					2.034	
					2.703	

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
Individual Egg Mass Statistics						
N	8	2	1	53	56	4
Mean	3.812	3.632	2.572	2.709	2.685	3.172
Var. (S ²)	0.259	0.734	na	0.204	0.265	0.018
SEM	0.180	0.606	na	0.062	0.069	0.067
Combined Egg Mass Statistics						
Total N	6					
Site Mean	3.097					
Var. (S ²)	0.280					
SEM	0.216					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				2.639	3.820	
06/26/00				2.611	2.574	
				3.547	3.041	
				2.941	2.783	
STUDY DAY				2.675	4.120	
79				3.031	2.140	
				3.471	3.404	
STAGE				2.452	2.802	
38				2.660	2.952	
				3.089	3.573	
				3.606	4.502	
				3.201	4.123	
				2.369	3.659	
				3.079	3.273	
				3.344	2.659	
				3.035	2.233	
				2.424	2.801	
				2.644	2.417	
				2.886	2.482	
				2.915	2.535	
				3.159	2.267	
				3.089	2.092	
				3.190	3.301	
				2.676	3.056	
				2.953	2.461	
				3.048	3.182	
				3.371	2.423	
				3.167	3.537	
				3.178		
				3.350		
				2.117		
				2.963		
				3.138		

Individual Egg Mass Statistics

N	0	0	0	33	28	0
Mean	na	na	na	2.970	3.008	na
Var. (S ²)	na	na	na	0.125	0.423	na
SEM	na	na	na	0.062	0.123	na

Combined Egg Mass Statistics

Total N	2
Site Mean	2.989
Var. (S ²)	0.001
SEM	0.019

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				3.451	3.379	
07/27/00				4.065	2.951	
					3.867	
STUDY DAY						
110						
STAGE						
42						

Individual Egg Mass Statistics

N	0	0	0	2	3	0
Mean	na	na	na	3.758	3.399	na
Var. (S ²)	na	na	na	0.189	0.210	na
SEM	na	na	na	0.307	0.265	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.578
Var. (S ²)	0.064
SEM	0.179

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 28 (23b-VP-1) (0.19 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE				3.198	3.270	
08/04/00						
STUDY DAY						
118						
STAGE						
42						

Individual Egg Mass Statistics

N	0	0	0	1	1	0
Mean	na	na	na	3.198	3.270	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.234
Var. (S ²)	0.003
SEM	0.036

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)
 DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	25	1.819	1.810	1.950	2.052	2.992	1.862
42	29	4.327	3.008	2.446	2.453	2.177	2.597
80	40	na	na	3.329	3.318	na	3.488
101	39	na	na	3.500	4.011	na	3.968
143	39	na	na	3.417	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
10	0.028	0.026	0.017	0.038	na	0.022
42	na	0.149	0.037	0.065	na	0.099
80	na	na	0.090	0.083	na	0.102
101	na	na	0.121	0.281	na	0.222
143	na	na	0.673	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	1.721	1.904	1.523	2.145	2.992	2.229
DATE	2.000	2.033	1.908	2.134		1.824
04/20/00	1.671	1.878	1.911	1.786		2.336
	1.720	1.867	2.044	2.065		1.927
STUDY DAY	1.588	1.593	2.006	1.664		2.210
10	1.795	1.999	1.867	1.884		1.491
	1.779	2.290	1.914	1.831		2.117
STAGE	1.917	1.898	1.874	1.977		1.789
25	1.683	2.023	2.068	1.915		2.079
	1.818	2.140	2.271	1.965		2.011
	1.802	2.365	2.169	2.281		1.802
	1.676	1.880	1.646	2.304		1.993
	1.804	1.664	1.835	2.561		1.998
	1.804	1.710	1.894	2.073		2.007
	1.799	1.818	1.910	2.207		1.823
	1.492	1.456	1.885	2.003		1.607
	1.649	1.710	2.076	1.664		2.263
	1.757	1.611	2.036	1.977		1.807
	1.651	1.760	1.855	2.023		2.189
	1.621	1.572	1.963	1.878		2.135
	1.620	1.748	1.845	1.719		1.671
	1.654	1.575	1.770	1.520		2.006
	1.643	1.849	1.918	2.102		1.654
	1.393	1.925	1.908	2.269		2.337
	1.757	2.117	2.053	2.661		2.128
	1.131	2.195	1.835	2.775		1.701
	2.041	2.021	2.142	2.340		1.505
	1.848	2.015	1.816	1.886		1.436
	2.105	1.432	1.784	1.884		1.933
	1.674	1.606	2.033	1.555		1.869
	2.007	1.616	1.867	2.249		1.714
	1.879	2.143	1.994	1.928		1.647
	1.032	2.185	1.834	2.082		1.742
	1.740	2.038	1.965	2.019		1.835
	1.667	1.680	2.036	1.998		1.536
	1.809	2.294	2.161	2.002		1.632
	1.925	1.614	1.954	2.263		1.664
	1.661	1.361	2.009	2.120		1.779
	2.004	1.591	1.985	2.015		1.933
	1.594	1.518	2.305	1.977		1.664
	1.683	1.558	1.985	1.792		1.882
	1.595	1.500	1.654	1.863		1.971
	2.027	1.869	2.119	2.100		1.640
	1.611	2.004	1.613	2.494		1.671
	1.697	1.908	1.794	2.099		1.667
	1.898	1.505	1.928	1.886		1.998
	1.342	1.643	1.699	2.424		2.127
	1.824	2.122	1.908	2.132		1.886
	2.228	1.859	1.857			1.952
	1.425	1.888	2.093			1.643

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
1.776	1.609	2.162			1.824
1.968	1.668	1.879			2.113
2.413	1.879	2.107			1.933
1.945	1.891	1.926			1.606
2.162	2.183	2.063			1.634
1.813	1.700	2.009			1.735
1.760	1.909	1.952			1.964
1.907	1.497	2.214			1.819
1.849	1.728	2.252			1.725
2.071	1.450	2.031			1.789
2.133	1.840	1.863			1.869
1.926	1.634	1.908			1.873
2.102	1.640	1.714			1.933
2.051	1.854	1.948			1.963
2.093	1.943	1.918			1.937
2.252	1.938	1.693			2.145
1.831	1.773	1.846			1.668
1.938	1.669	2.068			2.030
1.802	2.015	1.671			1.823
1.649	1.507	1.908			1.522
1.928	1.678	2.229			1.894
2.094	1.873	1.885			1.857
1.891	1.757	1.841			1.614
1.933	1.878	2.076			2.189
2.071	1.727	1.864			1.790
2.019	1.794	1.928			1.934
2.140		2.091			1.591
2.233		2.194			1.751
1.949		2.128			1.606
2.532		1.938			1.857
2.015		2.157			2.051
1.749		2.038			1.640
1.758		2.242			1.841
1.295		1.701			1.816
1.303		2.021			1.515
		1.345			2.011
		2.143			1.721
		2.132			1.749
		1.857			2.147
		1.992			2.250
		1.669			2.321
		1.908			1.848
		1.908			1.744
		1.968			1.930
		2.184			1.867
		1.843			
		1.988			
		1.962			
		2.134			

Individual Egg Mass Statistics

N	85	76	99	48	1	95
Mean	1.819	1.810	1.950	2.052	2.992	1.862
Var. (S ²)	0.066	0.052	0.029	0.069	na	0.044
SEM	0.028	0.026	0.017	0.038	na	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.081
Var. (S ²)	0.208
SEM	0.186

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	4.327	4.117	2.375	2.769	2.177	2.952
DATE		4.168	2.443	1.784		2.438
05/22/00		3.829	2.776	2.383		2.248
		3.300	1.874	2.125		2.927
STUDY DAY		3.317	2.975	1.639		3.195
42		4.368	2.114	2.278		2.282
		4.175	2.491	2.618		2.212
STAGE		4.647	2.560	2.758		1.215
29		1.934	3.120	2.555		1.857
		1.941	2.813	2.182		3.348
		2.855	2.584	2.239		3.028
		2.764	2.472	2.282		3.572
		3.202	2.002	2.268		1.761
		3.666	2.224	2.225		2.985
		2.797	1.990	2.410		2.439
		3.210	2.586	2.986		2.655
		2.759	2.171	2.402		3.050
		3.148	2.731	2.869		3.000
		2.662	2.175	2.879		3.728
		2.512	2.931	2.844		3.558
		2.666	2.554	3.184		3.993
		2.499	2.269	2.083		4.148
		2.341	2.510	2.098		2.659
		2.961	2.639	3.253		2.406
		1.870	2.632	2.773		3.028
		1.701	2.700	2.487		2.640
		2.200	2.570	2.392		3.212
		3.450	2.268	2.501		1.993
		2.157	2.193	2.353		2.932
			2.305	2.314		2.347
			2.289	1.712		2.862
			2.607	2.512		1.664
			2.780	2.421		2.526
			1.732	2.810		1.588
			1.610			1.733
			2.353			3.285
			2.137			1.951
			1.780			2.466
			2.254			2.058
			2.438			2.541
			2.075			1.951
			2.375			1.674
			2.568			2.953
			2.087			1.882
			2.587			1.886
			2.999			2.635
			2.779			
			2.897			
			2.258			
			2.462			

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
		2.466			
		2.574			
		2.961			
		2.152			
		1.973			
		1.899			
		2.230			
		2.252			
		2.203			
		2.639			
		2.038			
		2.946			
		2.628			
		2.219			
		1.931			
		2.145			
		2.181			
		2.996			
		2.725			
		2.558			
		2.783			
		2.870			
		2.421			
		3.136			
		2.504			
		2.460			
		2.890			
		2.752			
		3.170			
		2.626			
		2.607			
		2.267			
		2.018			
		2.255			
		2.359			

Individual Egg Mass Statistics

N	1	29	85	34	1	46
Mean	4.327	3.008	2.446	2.453	2.177	2.597
Var. (S ²)	na	0.647	0.118	0.145	na	0.454
SEM	na	0.149	0.037	0.065	na	0.099

Combined Egg Mass Statistics

Total N	6
Site Mean	2.835
Var. (S ²)	0.608
SEM	0.318

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			4.116	4.517		2.744
06/29/00			2.936	3.553		3.739
			3.505	3.532		3.029
			2.715	3.475		3.460
STUDY DAY			3.230	3.427		3.804
80			3.222	3.916		3.309
			1.507	3.845		2.601
STAGE			3.357	3.335		3.536
40			3.677	3.202		3.096
			2.929	2.845		3.337
			3.072	3.170		3.400
			3.840	3.170		3.510
			3.975	3.041		4.575
			3.823	3.334		3.899
			4.229	3.037		3.761
			3.450	3.051		2.616
			2.778	2.743		3.562
			2.867	3.159		3.345
			2.788	3.131		4.076
			3.987	3.161		3.597
			1.619	3.026		3.920
			3.748	3.321		3.826
			4.587			1 larvae missing from count
			4.304			
			3.687			
			3.253			
			3.230			
			2.101			
			3.546			
			3.115			
			2.975			
			4.014			
			3.283			
			3.637			
			2.126			
			2.397			
			2.987			
			3.215			
			3.599			
			3.470			
			3.455			
			2.904			
			3.924			
			3.969			
			3.556			
			3.787			
			4.041			
			2.734			
			2.824			
			4.046			
			3.789			
			3.182			
<hr/>						
Individual Egg Mass Statistics						
N	0	0	52	22	0	22
Mean	na	na	3.329	3.318	na	3.488
Var. (S ²)	na	na	0.423	0.153	na	0.229
SEM	na	na	0.090	0.083	na	0.102
 Combined Egg Mass Statistics						
Total N	3					
Site Mean	3.378					
Var. (S ²)	0.009					
SEM	0.055					

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 29 (23b-VP-2) (0.11 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			3.195	4.537		4.257
07/20/00			2.879	3.994		4.399
			2.591	4.371		3.457
			3.789	2.294		4.634
STUDY DAY			3.816	4.150		3.781
101			3.324	3.856		3.279
			3.418	3.872		1 larvae missing
STAGE			3.352	5.016		from count
39			3.564			
			3.935			
			3.127			
			4.025			
			3.689			
			4.380			
			4.399			
			3.489			
			2.669			
			3.368			

Individual Egg Mass Statistics

N	0	0	18	8	0	6
Mean	na	na	3.500	4.011	na	3.968
Var. (S ²)	na	na	0.264	0.632	na	0.297
SEM	na	na	0.121	0.281	na	0.222

Combined Egg Mass Statistics

Total N	3
Site Mean	3.827
Var. (S ²)	0.080
SEM	0.164

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
21	22	2.053	2.139	2.180	2.139	2.055	2.186
36	25	2.699	2.627	2.629	2.577	2.388	2.443
57	25	3.212	2.961	3.058	3.003	2.753	2.956
105	32	5.202	na	na	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
21	0.030	0.029	0.031	0.030	0.025	0.026
36	0.040	0.032	0.036	0.036	0.028	0.043
57	0.038	0.050	0.043	0.052	0.041	0.043
105	na	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.368	1.928	1.756	1.894	1.825	1.832
DATE	1.775	2.289	2.349	1.992	2.216	2.171
04/27/00	1.812	2.508	2.325	2.612	1.343	1.952
	1.881	2.717	1.839	2.031	2.146	2.051
STUDY DAY	1.712	2.563	2.417	2.300	2.174	1.833
21	2.392	2.200	1.539	2.117	2.166	2.368
	2.219	2.500	1.612	2.005	2.114	2.108
STAGE	2.021	2.464	2.037	2.337	2.027	2.069
22	1.933	2.302	2.476	2.259	1.698	1.585
	1.769	2.126	2.440	2.011	1.691	2.156
	2.783	2.277	1.659	2.190	1.884	2.139
	1.934	2.224	1.828	2.314	1.924	1.724
	2.375	1.879	2.391	2.234	1.766	1.953
	2.287	2.828	2.351	1.691	1.913	1.980
	1.837	2.207	2.683	1.959	1.561	1.706
	1.664	2.000	2.269	2.430	1.825	1.766
	1.669	2.552	2.347	1.863	2.219	2.087
	2.177	2.302	2.158	2.088	1.934	2.103
	1.775	2.007	1.523	2.150	1.793	2.254
	1.917	2.103	2.099	2.234	2.200	2.171
	1.908	1.886	1.881	2.297	2.184	2.205
	1.616	2.036	1.866	1.912	1.712	2.037
	1.683	2.727	2.350	2.415	1.428	1.794
	2.036	2.268	1.985	2.062	1.917	2.311
	2.040	2.311	1.682	2.280	2.318	2.107
	2.320	1.952	2.156	2.018	2.084	2.455
	1.765	1.963	2.469	2.660	1.833	2.705
	2.156	1.989	2.199	2.245	1.712	1.793
	2.007	2.221	2.141	1.876	1.465	2.329
	1.947	2.133	1.473	2.217	2.249	2.030
	2.114	2.132	2.450	2.138	2.347	2.311
	1.772	2.099	2.273	2.091	2.152	2.210
	1.996	2.812	1.828	2.577	1.585	1.946
	1.647	2.000	1.999	2.467	1.957	1.664
	1.796	2.043	2.317	2.687	1.673	2.200
	2.242	1.799	2.293	1.934	2.203	2.335
	2.254	1.974	2.259	2.735	2.220	2.353
	2.692	2.104	1.772	2.279	1.732	2.200
	1.690	1.788	2.392	1.682	2.125	2.223
ual Egg Mass St	2.420	2.148	2.575	2.468	2.181	2.401
	1.667	2.236	2.345	2.084	2.074	1.899
	2.041	1.934	2.750	1.550	2.045	2.042
	2.483	1.678	2.530	2.171	1.960	2.095
	1.664	2.148	2.329	1.780	1.924	2.534
	2.421	2.015	2.406	2.057	1.715	2.009
	2.422	1.929	2.464	2.056	2.160	2.306
	2.237	1.452	1.727	2.388	1.993	2.041
	1.915	1.990	2.191	2.025	1.909	2.577
	1.829	2.208	2.355	2.050	1.881	2.269
	2.464	2.114	2.438	2.306	2.181	1.979
	2.366	2.225	2.517	2.259	2.468	2.317
	2.187	1.957	2.690	2.332	1.966	1.928
	2.341	2.021	2.214	2.450	2.300	1.767
	2.191	2.067	2.032	2.305	1.999	1.966

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.902	1.979	2.415	2.472	2.439	2.021
	2.375	1.607	2.011	1.751	2.190	2.197
	1.820	1.624	2.551	2.048	2.011	2.241
	1.586	1.961	2.361	2.733	1.944	1.980
	1.998	1.786	2.139	2.308	2.000	2.000
	2.659	2.138	2.286	1.484	2.041	2.223
	2.174	2.220	2.062	1.730	1.875	2.472
	2.005	1.877	1.966	1.934	1.659	2.459
	2.248	2.685	2.073	1.917	1.908	2.444
	1.881	2.553	2.462	2.142	2.404	2.230
	2.114	2.001	2.220	2.310	2.133	1.882
	2.417	2.320	2.142	1.884	2.399	1.951
	1.609	2.414	2.184	2.066	2.490	2.290
	1.899	2.745	2.351	2.563	2.320	2.269
	1.894	2.246	1.397	2.160	1.990	2.220
	1.390	2.212	2.021	2.245	2.502	2.345
	2.362	1.996	2.009	1.956	2.302	2.083
	1.627	1.280	2.430	1.949	2.387	2.415
	1.691	2.399	2.902	2.007	2.248	2.421
	1.759	2.049	2.241	2.293	2.138	2.263
	1.930	1.727	2.098	1.592	1.979	2.728
	2.076	2.038	1.690	1.829	2.105	2.173
	2.366	2.252	2.171	2.099	2.209	2.640
	2.029	2.140	2.011	1.473	1.898	2.229
	2.115	2.053	1.684	2.268	2.283	2.144
	2.661	2.036	2.035	2.042	2.145	2.415
	2.268	2.812	2.401	2.228	1.758	2.241
	2.123	2.460	2.001	1.587	2.211	2.221
	1.879	1.936	1.992	2.637	2.477	2.005
	1.655	2.236	2.446	2.151	2.438	2.224
	2.305	2.438	2.117	2.036	2.062	2.175
	1.691	2.085	2.502	1.777	2.426	2.375
	2.248	2.028	2.738	1.860	2.314	2.223
	1.848	2.066	2.293	2.435	2.050	1.848
	2.191	2.041	2.443	2.073	1.890	2.200
	2.005	2.069	2.331	2.488	2.205	2.672
	2.241	2.409	2.497	2.563	2.327	2.830
	2.386	2.045	1.904		2.327	2.761
	2.349	1.992	1.856		2.237	2.414
	1.621	1.975	2.401		1.980	2.619
	2.592	2.311	1.976		2.108	2.561
	2.028	2.127	2.144		2.442	2.438
	2.341	1.817	2.139		1.870	
	2.404		2.049		2.248	
	1.979				2.036	
	1.914				2.000	
<hr/>						
Individual Egg Mass Statistics						
N	100	97	98	91	100	96
Mean	2.053	2.139	2.180	2.139	2.055	2.186
Var. (S ²)	0.088	0.081	0.092	0.081	0.064	0.066
SEM	0.030	0.029	0.031	0.030	0.025	0.026
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Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.125					
Var. (S ²)	0.003					
SEM	0.024					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.425	2.925	2.105	2.668	2.464	2.268
DATE	2.833	2.250	2.133	2.401	2.415	2.113
05/12/00	2.125	3.112	2.502	2.994	2.192	2.256
	3.207	3.116	2.738	2.705	2.695	1.706
STUDY DAY	2.910	2.795	2.290	2.164	2.409	1.761
36	2.184	3.020	2.790	3.003	1.963	2.305
	3.088	3.019	2.779	2.858	1.974	2.278
STAGE	2.290	2.921	3.039	3.033	2.392	2.541
25	2.171	2.841	2.452	2.877	2.145	2.245
	3.157	2.662	2.497	2.354	2.865	1.941
	3.407	2.911	2.421	2.191	2.773	2.293
	3.195	2.792	2.237	2.401	2.139	2.552
	2.810	2.923	1.865	2.594	1.881	2.719
	2.536	2.454	3.053	2.150	2.472	1.966
	2.439	2.478	2.870	2.994	2.132	2.523
	2.454	2.439	2.510	2.009	2.204	2.780
	2.614	2.531	2.760	2.160	2.690	1.691
	2.269	2.897	2.654	2.657	2.468	2.622
	3.104	2.917	2.835	3.597	1.961	2.560
	3.053	2.563	3.405	2.323	2.655	2.693
	2.446	2.182	2.592	2.497	2.538	2.323
	3.091	3.183	2.459	2.460	2.605	1.703
	2.593	2.392	2.824	1.870	2.443	2.246
	2.950	2.693	2.777	2.271	2.426	1.833
	2.354	2.792	1.867	2.931	2.752	2.298
	2.825	2.727	2.783	2.104	2.645	2.766
	3.042	2.766	2.591	2.464	2.105	2.305
	2.329	2.586	2.587	2.807	2.491	1.807
	2.897	2.637	3.348	2.731	2.137	2.726
	3.179	2.776	2.153	2.798	1.828	2.663
	3.020	2.053	2.594	3.003	2.745	2.643
	2.121	2.838	2.721	2.952	2.454	2.336
	2.738	2.489	2.726	3.078	2.097	2.860
	2.934	2.483	2.967	2.897	2.497	2.072
	2.761	2.382	2.541	3.088	2.484	2.602
	2.705	2.498	2.334	2.343	2.426	3.454
	3.097	2.293	2.095	3.104	2.382	2.349
	3.155	2.392	2.650	2.392	2.125	2.181
	3.146	3.107	2.967	2.707	2.576	2.777
ual Egg Mass St	2.609	3.345	2.625	2.318	2.762	2.574
	3.093	2.703	2.623	2.282	2.590	3.304
	2.747	2.042	2.761	2.653	2.005	2.517
	2.777	2.867	2.545	2.705	2.793	3.250
	2.902	3.035	2.489	2.628	2.728	2.386
	2.728	2.926	2.761	2.797	2.435	1.590
	2.946	2.182	2.566	2.858	2.494	2.350
	2.652	2.449	1.820	2.567	2.907	2.277
	2.994	2.435	2.164	3.534	2.397	2.686
	2.236	2.631	2.601	2.362	2.444	2.752
	2.063	2.684	2.763	2.466	2.537	2.761
	2.902	2.755	2.759	2.643	2.847	2.769
	2.506	3.011	3.043	2.395	2.661	2.259
	2.844	2.659	2.828	2.429	2.484	2.271
	3.064	2.822	2.426	2.101	2.466	2.854

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.221	2.526	2.950	2.406	2.579	2.600
	2.432	2.354	2.437	2.566	2.567	2.042
	2.483	2.537	2.666	2.498	2.028	3.242
	1.564	2.380	2.401	2.462	2.133	2.512
	3.324	2.637	2.425	2.655	2.181	2.224
	2.468	2.857	2.901	2.634	2.748	1.902
	3.233	2.353	2.931	2.708	2.544	2.140
	2.371	2.609	3.131	2.050	2.267	2.656
	2.805	3.253	3.432	2.442	1.866	2.770
	2.208	2.519	2.966	2.495	2.395	1.924
	2.359	2.421	2.417	2.863	2.236	2.338
	3.016	2.735	2.410	2.900	3.058	2.814
	3.057	2.248	2.695	2.584	2.208	2.105
	3.055	2.076	2.999	2.257	2.716	2.889
	2.639	2.875	2.401	2.700	2.450	3.146
	2.875	2.695	2.888	2.190	2.857	2.018
	2.080	3.266	2.459	2.650	2.825	2.654
	2.792	2.214	2.870	1.799	2.153	2.824
	2.975	1.980	3.023	2.584	2.745	2.510
	3.003	2.038	2.984	2.641	2.372	2.640
	2.677	2.844	3.121	2.241	2.160	2.130
	3.319	2.056	3.143	2.276	2.459	2.250
	2.819	2.121	3.078	2.236	2.166	2.637
	2.733	2.252	2.829	3.030	2.098	2.469
	2.708	2.442	2.592	2.828	2.536	2.727
	2.028	2.966	2.244	2.425	2.249	2.867
	2.541	2.767	2.733	2.446	2.634	2.125
	2.045	2.545	2.890	2.443	2.099	2.469
	2.297	2.223	2.844	2.687	2.487	2.690
	2.459	2.596	2.238	2.392	2.386	2.200
	2.895	2.760	2.145		2.510	3.112
	2.852	2.971	1.788		1.862	3.219
	2.258	2.670	3.239		2.337	1.506
	2.623	2.273	1.863		2.024	2.277
	2.874	2.870	2.357		2.145	2.069
	2.269	2.274	2.585		2.387	2.841
	2.774	2.452	2.289		2.353	
	2.380	2.359	2.554		1.939	
	1.464	2.576	1.963		2.410	
	2.485	2.364	2.274		2.585	
	2.894	2.871	2.928		2.133	
	2.318	2.887	3.072		2.257	
	3.439	2.728	2.546		1.607	
					2.147	
					2.392	
					2.294	
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Individual Egg Mass Statistics						
N	97	97	97	84	100	90
Mean	2.699	2.627	2.629	2.577	2.388	2.443
Var. (S ²)	0.157	0.097	0.127	0.112	0.079	0.165
SEM	0.040	0.032	0.036	0.036	0.028	0.043
 Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.560					
Var. (S ²)	0.014					
SEM	0.049					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.703	2.785	3.208	2.267	2.705	3.131
DATE	3.182	3.369	3.538	3.171	3.104	3.450
06/02/00	3.442	3.314	3.438	3.345	3.366	2.857
	3.282	3.590	3.007	3.902	2.804	2.773
STUDY DAY	3.657	2.656	3.145	2.327	3.138	3.179
57	2.489	2.246	3.043	3.325	2.318	2.469
	3.256	3.242	3.183	2.823	3.339	2.964
STAGE	3.011	2.384	3.623	2.837	2.585	2.469
25	2.999	3.171	3.291	3.174	2.630	3.131
	3.307	2.563	3.950	3.657	2.606	2.668
	3.394	3.016	3.621	3.349	3.254	2.464
	3.464	2.994	3.253	3.223	2.677	2.529
	3.679	3.488	3.309	2.585	2.259	2.464
	3.250	2.986	3.634	2.541	2.544	2.950
	3.179	2.691	3.476	3.501	3.028	2.758
	4.025	3.555	3.108	2.705	2.804	3.658
	3.162	3.386	3.311	3.214	2.343	2.835
	3.247	2.724	2.835	3.675	2.498	3.483
	3.146	3.000	2.743	4.517	2.607	2.946
	2.967	3.390	3.078	3.584	2.420	3.336
	3.140	2.459	2.764	3.315	2.919	2.391
	3.501	2.391	3.254	2.712	2.790	2.684
	3.112	3.532	3.521	3.282	2.468	3.324
	3.623	2.690	3.280	3.548	2.050	3.468
	2.695	3.156	2.427	3.663	2.648	2.768
	3.199	2.421	3.307	2.567	2.415	2.738
	3.713	2.551	3.003	3.975	2.378	1.966
	2.795	2.559	2.915	2.357	2.937	2.914
	3.005	3.917	3.152	3.130	2.002	3.186
	3.116	2.926	2.495	3.523	2.050	3.028
	3.463	2.657	2.560	2.380	2.250	2.966
	3.080	2.741	2.738	2.847	2.860	3.700
	3.657	3.074	2.819	3.311	2.695	2.870
	3.300	2.777	3.131	2.491	2.971	2.566
	2.927	3.496	2.506	2.951	2.902	3.387
	3.072	3.593	3.057	3.294	2.951	2.554
	3.396	3.209	3.552	3.239	2.861	3.219
	3.256	3.337	2.761	3.638	3.379	2.928
	2.852	3.280	3.328	2.491	2.610	2.915
ual Egg Mass St	3.157	3.104	2.951	2.531	2.683	2.853
	3.384	2.586	3.311	3.300	2.840	2.667
	3.219	3.438	3.179	2.804	2.623	2.882
	3.074	3.170	2.781	2.637	2.773	3.209
	3.948	3.389	2.868	2.454	2.469	4.058
	3.293	3.302	2.695	2.805	2.771	2.382
	3.101	3.119	2.668	3.516	2.875	2.801
	3.626	3.056	3.220	2.449	3.390	3.016
	3.034	3.538	3.200	3.217	3.173	3.131
	2.731	3.810	2.748	3.542	2.108	2.160
	2.191	2.792	2.678	3.028	3.175	2.835
	3.228	2.920	3.647	2.459	3.211	3.300
	3.422	2.523	3.083	2.211	4.030	2.669
	3.459	2.629	3.747	2.712	2.767	2.829
	3.263	3.300	3.179	2.809	2.752	2.927

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.975	3.312	3.300	3.007	1.974	2.536
2.982	2.823	3.767	2.628	3.451	2.853
2.817	3.835	2.016	2.486	3.228	3.150
2.472	3.035	3.276	2.783	2.786	3.388
3.045	4.081	3.401	2.489	3.152	3.801
2.731	3.061	3.815	3.073	4.003	3.273
2.785	4.349	2.596	2.388	3.468	2.975
3.290	2.923	3.333	3.432	3.131	2.841
3.584	2.347	3.503	3.498	2.862	3.252
3.576	2.432	3.225	4.032	2.832	3.060
2.401	3.831	3.887	2.962	3.053	3.102
3.131	2.964	3.022	3.436	3.183	3.291
3.141	2.837	3.521	2.921	2.835	2.927
2.563	3.242	2.982	2.689	2.690	3.140
2.897	2.084	2.792	2.492	2.597	2.705
3.277	2.477	3.810	3.170	2.828	2.790
3.422	2.746	3.302	3.123	3.041	3.242
3.273	2.727	2.833	2.828	3.053	4.048
3.039	2.781	2.687	2.423	2.380	2.692
2.709	2.241	2.170	3.002	2.755	3.071
3.102	2.798	2.653	2.942	2.622	2.563
3.578	2.831	2.814	3.085	2.645	3.588
3.849	2.139	2.652	2.921	2.257	3.212
3.487	2.434	3.108	2.820	2.853	2.575
2.946	2.341	2.411	2.392	2.300	3.738
3.279	3.216	3.554	2.555	2.609	3.005
2.609	2.823	2.907	2.650	2.752	2.504
3.517	2.394	2.171	2.892	2.192	2.237
3.228	3.422	2.477	3.255	2.691	2.184
2.581	3.479	3.112		2.892	2.555
3.538	2.320	2.504		2.756	2.921
4.159	2.764	2.994		2.366	2.904
3.781	2.606	3.214		2.146	2.464
3.829	2.683	2.469		2.504	3.555
3.794	2.748	2.795		2.053	3.104
3.185	3.131	2.401		2.192	
3.522	1.894	3.097		3.316	
3.208	2.255	2.241		2.861	
3.464		3.260		2.244	
2.946		2.566		2.761	
3.458		3.505		2.861	
3.212				2.214	
2.293				2.814	

Individual Egg Mass Statistics

	97	92	95	83	97	89
N	97	92	95	83	97	89
Mean	3.212	2.961	3.058	3.003	2.753	2.956
Var. (S ²)	0.143	0.230	0.177	0.221	0.163	0.167
SEM	0.038	0.050	0.043	0.052	0.041	0.043

Combined Egg Mass Statistics

N	6
Site Mean	2.990
Var. (S ²)	0.022
SEM	0.061

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 30 (38-VP-1) (28.0 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	5.202					
07/20/00						
STUDY DAY						
105						
STAGE						
32						

Individual Egg Mass Statistics						
N	1	0	0	0	0	0
Mean	5.202	na	na	na	na	na
Var. (S ²)	na	na	na	na	na	na
SEM	na	na	na	na	na	na
Combined Egg Mass Statistics						
Total N	1					
Site Mean	5.202					
Var. (S ²)	na					
SEM	na					

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
15	23	2.220	2.129	2.171	2.012	2.237	2.062
42	26	2.686	2.746	2.593	2.632	2.633	2.401
80	35	na	3.471	3.143	3.345	3.425	3.129
101	41	na	3.399	3.252	3.496	4.093	3.590
133	34	na	na	3.841	3.658	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
15	0.026	0.025	0.023	0.023	0.025	0.022
42	0.036	0.037	0.038	0.037	0.037	0.036
80	na	0.053	0.086	0.092	0.081	0.107
101	na	na	0.105	0.100	0.232	0.256
133	na	na	0.087	0.273	na	na

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE	2.172	1.909	2.180	1.595	2.047	2.296
04/25/00	1.753	1.821	2.429	2.053	1.889	1.824
	2.550	1.961	2.374	2.248	1.679	2.061
	2.433	2.215	1.934	1.742	2.002	1.768
STUDY DAY	2.352	2.493	2.189	2.179	2.130	1.646
15	2.201	2.370	2.431	2.005	1.819	1.794
	1.621	2.430	2.179	1.643	2.313	1.981
STAGE	2.374	2.144	1.945	1.492	2.124	2.158
23	2.495	1.871	2.016	1.992	2.474	1.909
	2.627	2.477	1.751	1.709	2.150	1.694
	2.397	1.807	2.090	1.541	2.151	1.797
	2.148	2.179	2.441	1.499	2.536	1.764
	2.282	1.953	2.243	1.617	2.408	1.814
	2.243	1.777	2.340	1.672	2.317	2.014
	2.182	1.701	1.937	1.745	2.299	2.124
	1.850	2.156	2.227	1.901	2.013	1.967
	2.667	1.811	2.250	2.018	2.269	2.002
	2.467	2.433	2.451	2.265	2.110	1.967
	2.358	1.886	2.429	2.112	1.806	2.047
	2.341	2.321	1.999	1.880	1.877	2.335
	2.224	2.545	2.284	2.022	2.227	2.027
	2.227	2.665	2.211	2.235	2.088	2.003
	2.284	2.326	1.990	1.783	2.587	2.186
	2.167	2.073	2.249	2.112	2.344	2.271
	2.327	2.388	2.286	2.069	2.697	1.925
	2.183	1.991	2.058	2.027	1.968	2.265
	2.287	2.001	1.773	1.853	1.776	2.149
	2.645	1.896	2.137	2.056	1.955	2.318
	2.354	1.933	2.193	2.020	1.914	2.313
	2.071	1.893	2.093	1.910	2.219	1.942
	2.506	2.501	2.631	1.820	2.600	2.047
	2.450	2.189	2.321	1.950	2.480	2.080
	2.288	2.679	2.255	1.972	2.237	2.020
	1.848	2.189	2.627	2.166	2.233	2.150
	2.367	2.208	2.237	2.061	2.425	2.275
	2.124	2.298	2.278	1.999	2.609	2.255
	2.393	2.169	1.898	1.898	2.158	2.371
	2.519	2.047	2.316	2.036	2.096	1.966
	1.909	2.044	2.262	1.965	1.946	2.078
	2.228	1.886	2.071	2.056	1.972	1.918
	2.508	1.825	1.325	2.062	2.421	2.328
	2.508	1.970	1.585	1.579	2.574	1.756
	2.397	2.112	2.259	2.078	2.802	2.181
	2.396	2.028	1.857	2.146	2.382	2.408
	2.269	1.856	2.278	1.567	2.726	2.354
	2.610	1.866	1.786	2.011	2.286	2.417
	2.572	2.044	2.270	1.889	2.410	2.250
	2.257	1.965	2.108	1.945	2.634	2.497
	2.453	2.064	2.621	2.204	2.208	2.129
	2.755	2.278	2.543	1.999	2.380	1.839
	2.073	1.683	2.122	1.763	2.364	2.331
	2.324	2.076	2.136	2.242	2.279	1.891
	1.519	2.356	2.167	2.415	2.126	1.937
	1.728	2.008	1.717	2.086	2.429	2.149
	2.053	1.445	2.337	1.996	2.326	1.988

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
1.860	2.375	2.316	1.724	2.079	2.195
1.934	2.046	2.585	1.679	1.984	2.446
2.350	2.011	2.579	1.807	2.321	2.332
2.013	1.984	1.990	1.920	2.395	2.122
2.096	2.011	2.061	1.909	2.227	1.803
2.374	1.894	2.425	2.221	2.236	2.135
2.349	2.256	2.150	1.593	2.576	2.388
2.487	1.976	2.481	2.125	2.130	2.143
2.107	2.428	2.126	2.011	2.415	2.105
1.709	2.228	2.480	2.061	2.122	2.273
2.204	2.284	2.154	2.255	2.344	1.906
2.126	2.237	1.901	2.101	1.828	1.496
1.996	2.169	2.193	2.445	1.941	1.981
1.844	2.101	2.249	2.487	1.940	2.189
2.045	1.856	2.219	2.316	2.039	1.836
2.082	1.933	2.242	2.146	2.822	2.069
2.218	1.789	2.056	1.988	2.200	2.223
2.427	2.110	2.384	2.093	2.466	2.429
1.869	2.110	2.131	2.146	2.237	2.354
2.286	2.361	2.348	2.104	2.761	2.073
1.742	2.317	2.072	2.219	2.249	1.914
2.102	2.397	2.270	2.172	2.221	2.157
2.324	2.116	1.679	2.003	2.463	2.058
2.271	2.508	2.260	2.011	2.143	2.116
2.131	2.471	2.011	1.507	2.036	2.375
2.275	2.093	2.425	2.200	2.475	2.251
2.029	2.193	2.429	1.968	2.193	2.079
2.090	2.197	2.095	2.123	2.215	2.249
1.922	2.288	2.036	2.122	2.379	1.805
2.221	2.445	2.384	2.046	1.961	1.709
2.237	2.580	2.183	2.556	2.410	1.943
2.309	2.209	1.923	1.909	2.143	1.956
2.415	2.096	1.967	2.144	1.976	1.751
2.110	2.429	2.174	2.308	2.080	2.308
1.991	1.945	1.753	1.958	2.415	1.756
2.286	2.429	2.296	2.227	2.198	2.036
2.286	2.036	1.945	2.179	2.038	1.981
2.143	2.174	1.917	2.306	2.044	1.663
1.502	2.270	2.243	1.992	2.072	2.116
2.654	2.445	2.209	2.296	2.460	1.920
1.863	2.221	2.124	2.395		1.970
2.384	1.917	2.313	2.426		1.871
2.375	2.262	1.937	2.137		1.901
2.357	1.345	1.965	1.980		1.599
		2.273			2.268

Individual Egg Mass Statistics

N	99	100	99	95	100
Mean	2.220	2.129	2.171	2.237	2.062
Var. (S ²)	0.066	0.063	0.055	0.060	0.047
SEM	0.026	0.025	0.023	0.025	0.022

Combined Egg Mass Statistics

Total N	6
Site Mean	2.138
Var. (S ²)	0.008
SEM	0.036

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
	2.720	2.181	2.772	2.735	2.555	1.769
DATE	2.801	3.172	2.622	2.468	2.125	1.657
05/22/00	2.357	2.716	2.845	3.254	2.368	1.684
	2.779	2.677	1.558	3.028	2.793	2.592
STUDY DAY	2.981	2.520	2.517	3.147	2.652	2.069
42	2.689	2.300	2.560	2.946	2.331	1.882
	1.895	2.643	3.219	2.819	2.608	2.499
STAGE	2.647	2.946	2.817	2.626	2.182	2.602
26	2.208	2.966	2.519	3.053	2.607	2.245
	2.088	2.779	2.637	2.036	3.071	2.383
	2.567	2.297	2.659	2.930	3.003	1.878
	2.155	2.750	3.415	3.194	2.050	1.616
	2.924	2.699	2.698	2.678	2.380	2.986
	2.349	3.025	2.280	2.937	2.297	2.708
	2.711	2.795	2.357	2.580	2.526	2.841
	2.386	2.494	2.408	2.421	2.297	2.491
	2.654	2.600	3.100	3.491	3.028	2.170
	2.619	2.311	3.179	2.872	2.667	1.956
	2.672	2.661	2.492	2.282	2.521	2.484
	2.368	3.254	2.103	2.761	2.705	2.343
	2.576	2.986	2.679	2.931	2.225	2.371
	2.920	2.957	2.868	2.951	2.944	2.353
	2.508	2.208	2.353	2.462	2.768	2.435
	3.254	2.306	2.459	2.989	3.024	2.668
	3.010	2.443	3.024	2.777	2.632	1.931
	3.132	2.913	2.351	2.178	2.177	2.570
	2.802	2.980	2.051	2.877	2.441	2.152
	3.213	2.639	2.553	2.904	3.188	2.988
	2.961	2.776	2.601	2.388	2.640	2.477
	2.980	2.587	2.637	2.766	2.305	2.208
	2.814	3.070	2.777	2.148	2.469	2.406
	2.708	2.553	3.304	2.211	3.318	2.786
	2.178	3.067	2.589	3.640	2.844	2.761
	2.862	2.953	2.486	3.039	2.715	1.704
	3.057	2.585	2.698	2.699	2.656	1.913
	3.271	2.652	2.670	2.069	3.221	2.485
	1.854	2.760	2.850	2.297	2.628	2.639
	2.408	2.585	3.207	2.973	2.825	2.422
	2.341	2.246	2.671	2.499	2.875	3.104
	2.520	3.111	2.669	2.789	2.469	2.684
	2.854	2.652	2.148	2.837	2.350	2.994
	2.854	2.678	2.698	2.030	2.892	2.076
	2.852	2.452	2.653	2.466	3.079	2.502
	2.862	2.411	1.974	2.849	2.228	2.497
	2.805	2.716	2.580	2.466	2.128	2.581
	3.560	2.695	2.111	2.986	3.005	2.828
	2.286	1.956	2.622	2.083	2.221	2.211
	2.865	3.078	2.630	3.146	2.126	2.726
	2.643	2.755	2.464	3.131	2.877	2.841
	3.199	2.659	2.591	2.756	3.408	2.682
	2.934	2.609	2.146	2.872	2.494	2.862
	2.807	3.439	2.652	2.804	2.394	2.741
	3.023	2.999	2.174	2.197	2.932	2.780
	3.102	2.858	2.780	2.661	3.316	2.464
	1.930	3.115	2.574	3.225	2.437	2.203

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
2.426	2.881	2.631	2.959	2.733	2.221
2.898	2.437	2.141	2.365	2.622	2.560
2.829	1.989	2.075	2.934	3.145	1.698
3.076	2.753	2.204	2.536	2.628	2.133
2.764	2.536	2.117	2.665	3.401	2.201
3.483	3.161	2.317	2.667	2.214	2.695
2.223	2.275	2.256	2.521	2.510	2.393
3.242	2.366	1.780	2.807	2.986	2.181
2.994	2.804	2.709	2.805	2.670	2.797
2.904	2.761	2.392	2.487	2.221	2.797
2.716	2.502	2.543	1.992	2.942	2.175
3.027	2.904	2.208	1.638	2.955	2.342
2.380	2.915	2.606	2.717	2.426	2.263
2.645	3.564	2.526	2.766	2.584	2.193
2.725	2.949	2.835	3.177	2.698	2.208
2.661	3.042	2.434	2.789	2.854	2.107
2.625	2.638	2.580	2.672	2.879	1.990
2.495	1.993	2.205	2.043	3.319	2.626
3.073	2.434	2.498	2.596	2.058	2.828
2.946	2.388	3.043	2.553	2.323	2.038
2.353	3.146	3.740	2.341	2.268	2.449
2.069	3.501	2.839	2.285	1.590	1.650
2.216	3.531	3.523	2.454	2.930	1.907
2.677	3.032	2.462	2.626	2.203	2.657
2.306	3.071	3.016	1.951	2.349	2.200
2.441	2.442	3.050	2.156	2.768	2.354
2.386	3.424	2.626	2.212	2.703	2.849
2.862	3.494	2.519	2.549	3.011	2.544
2.761	2.388	2.819	2.773	2.484	2.085
2.908	3.147	2.743	2.091	2.399	2.975
3.131	2.726	2.351	2.200	2.899	2.104
2.325	2.931	2.962	2.234	3.185	2.810
2.384	2.597	2.724	2.656	3.173	2.498
2.236	2.692	3.053	2.668	2.011	2.568
2.661	3.107	2.347	2.468	2.226	1.824
2.190	1.912	3.148	2.378	2.642	2.700
2.804	3.007	2.236	2.664	2.641	2.861
2.380		2.336	2.626	2.208	2.255
3.048		2.126	2.525	2.440	2.382
2.318		2.544	2.693	2.795	3.118
2.760			2.313		2.268
			2.415		2.177
					2.395
					2.286
					2.853

Individual Egg Mass Statistics

N	96	92	95	97	95	100
Mean	2.686	2.746	2.593	2.632	2.633	2.401
Var. (S ²)	0.123	0.129	0.134	0.131	0.133	0.131
SEM	0.036	0.037	0.038	0.037	0.037	0.036

Combined Egg Mass Statistics

Total N	6
Site Mean	2.615
Var. (S ²)	0.014
SEM	0.048

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE		3.566	3.781	4.290	3.587	2.876
06/29/00		3.420	3.631	3.882	4.244	2.973
		3.289	3.507	4.349	3.747	3.322
		3.355	3.735	3.686	2.966	3.855
STUDY DAY		3.705	3.345	3.560	3.597	2.269
80		3.617	3.580	3.751	3.199	3.568
		3.422	3.254	2.607	3.526	3.841
STAGE		3.426	3.256	3.963	3.100	2.538
35		3.581	4.419	3.691	3.246	2.819
		3.762	3.580	4.037	2.917	3.568
		3.363	4.457	3.273	3.348	2.290
		3.491	4.218	3.842	3.345	3.153
		3.326	2.792	1.976	3.939	2.973
		2.937	3.384	3.209	3.491	2.558
		3.902	1.875	3.032	3.273	3.165
		3.520	4.194	3.778	3.033	3.002
		3.319	2.804	4.005	2.615	2.925
			3.621	3.091	3.248	3.598
			3.326	3.328	3.592	2.586
			2.489	3.762	3.396	3.838
			3.503	3.345	3.695	2.827
			3.175	2.652	4.179	3.964
			2.609	3.197	3.491	3.454
			2.008	3.370		
			2.640	2.546		
			2.560	2.715		
			2.634	3.498		
			1.804	3.616		
			3.631	3.454		
			3.612	3.233		
			3.550	3.425		
			3.161	2.712		
			2.469	3.529		
			2.469	2.690		
			3.057	2.628		
			3.775	2.708		
			2.712			
			2.508			
			2.964			
			2.414			
			2.602			
			2.659			
			2.923			
			4.029			
			3.148			
			2.907			
			3.119			
			3.471			
			3.094			
			3.072			
			2.760			
<hr/>						
Individual Egg Mass Statistics						
N	0	17	51	36	23	23
Mean	na	3.471	3.143	3.345	3.425	3.129
Var. (S ²)	na	0.048	0.378	0.303	0.151	0.262
SEM	na	0.053	0.086	0.092	0.081	0.107
Combined Egg Mass Statistics						
Total N	5					
Site Mean	3.303					
Var. (S ²)	0.025					
SEM	0.071					

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE		3.399	3.435	3.328	3.566	4.256
07/20/00			3.582	4.662	4.420	3.668
			3.011	4.346	4.541	2.978
			3.774	3.845	3.846	4.692
STUDY DAY			3.474	3.657		3.501
101			3.502	3.552		3.871
			3.033	3.098		3.389
STAGE			3.078	3.356		2.366
41			2.796	3.207		
			2.420	3.511		
			3.919	2.798		
			3.346	3.224		
			3.668	3.010		
			3.338	3.829		
			3.112	3.765		
			2.739	2.848		
			2.520	3.057		
			2.407	3.757		
			3.204	3.553		
			2.710	3.651		
			4.006	3.372		
			3.534			
			4.194			

Individual Egg Mass Statistics

N	0	1	23	21	4	8
Mean	na	3.399	3.252	3.496	4.093	3.590
Var. (S ²)	na	na	0.253	0.211	0.216	0.524
SEM	na	na	0.105	0.100	0.232	0.256

Combined Egg Mass Statistics

Total N	5
Site Mean	3.566
Var. (S ²)	0.102
SEM	0.143

VERNAL POOL RANA sylvatica STUDY
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) (0.5 mg/kg Sediment PCB Concentration)

	0-EM01	1-EM01	0-EM02	0-EM03	0-EM04	0-EM05
DATE			3.819	3.951		
08/21/00			3.701	3.903		
			4.002	4.371		
STUDY DAY				2.864		
133				3.203		
STAGE						
34						

Individual Egg Mass Statistics

N	0	0	3	5	0	0
Mean	na	na	3.841	3.658	na	na
Var. (S ²)	na	na	0.023	0.373	na	na
SEM	na	na	0.087	0.273	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.750
Var. (S ²)	0.017
SEM	0.091

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
0		0.767	0.788	0.766	0.837	0.834	0.776
5		1.373	1.582	1.440	1.554	1.527	1.486
11	24	1.848	2.083	2.194	2.277	2.024	1.964
47	30	2.675	2.768	2.963	2.773	2.776	2.765
74	34	2.921	2.925	3.107	3.158	3.047	3.206
105	38	3.512	3.457	3.642	3.494	3.267	3.549
137	42	3.675	3.491	4.167	5.035	4.065	3.470
147	41	na	3.494	4.416	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
0	0.008	0.010	0.008	0.009	0.009	0.010
5	0.013	0.014	0.012	0.016	0.014	0.014
11	0.022	0.022	0.024	0.024	0.020	0.025
47	0.034	0.038	0.045	0.037	0.046	0.046
74	0.050	0.052	0.062	0.064	0.071	0.060
105	0.065	0.065	0.105	0.114	0.091	0.111
137	0.146	0.136	0.089	na	0.227	0.294
147	na	0.096	0.173	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	0.799	0.935	0.950	0.807	0.991	0.706
DATE	0.902	0.718	0.678	0.904	0.901	0.856
04/13/00	0.727	0.914	0.784	0.885	0.867	0.886
	0.652	0.812	0.742	0.965	0.957	0.913
STUDY DAY	0.914	0.731	0.687	0.770	0.922	0.891
0	0.795	0.827	0.720	0.715	1.060	0.783
	0.714	0.779	0.772	0.832	0.881	0.784
STAGE	0.839	0.706	0.828	0.797	0.708	0.856
	0.706	0.801	0.691	0.862	0.845	0.709
	0.726	0.744	0.638	0.921	0.913	0.807
	0.714	0.804	0.690	0.775	0.942	0.803
	0.626	0.768	0.666	0.718	0.817	0.958
	0.829	0.796	0.793	0.868	0.950	0.804
	0.742	0.715	0.744	0.689	0.742	0.762
	0.744	0.808	0.896	0.851	0.977	0.902
	0.765	0.656	0.705	0.685	0.896	0.982
	0.803	0.815	0.699	0.910	0.952	0.801
	0.765	1.009	0.817	0.828	0.910	0.779
	0.799	0.626	0.782	0.753	0.957	0.817
	0.754	0.747	0.647	0.727	0.833	1.017
	0.765	0.744	0.747	1.014	0.807	0.924
	0.856	0.578	0.657	0.957	0.747	0.771
	0.731	0.794	0.839	0.694	0.817	0.885
	0.641	0.907	0.860	0.804	0.787	0.628
	0.614	0.795	0.779	0.950	0.817	0.644
	0.691	0.842	0.779	0.973	0.847	0.759
	0.706	0.757	0.744	0.797	0.896	0.715
	0.762	0.941	0.718	0.930	0.803	0.659
	0.860	0.702	0.730	0.657	0.811	0.749
	0.832	0.772	0.742	0.612	0.685	0.541
	0.817	0.862	0.896	0.795	0.675	0.644
	0.843	0.715	0.877	0.839	0.867	0.776
	0.772	0.705	0.760	0.772	0.674	0.705
	0.740	0.659	0.790	0.571	0.947	0.591
	0.685	0.772	0.722	0.876	0.884	0.823
	0.678	0.536	0.633	0.804	0.772	0.663
	0.731	0.832	0.526	0.900	0.860	0.883
	0.831	0.839	0.797	0.942	0.811	0.718
	0.659	0.709	0.722	0.832	0.760	0.960
	0.656	0.828	0.812	0.896	0.839	0.733
	0.690	0.893	0.799	0.828	0.747	0.828
	0.722	0.788	0.799	0.839	0.867	0.818
	0.668	0.742	0.768	0.901	0.789	0.815
	0.807	0.789	0.715	0.902	0.714	0.807
	0.811	0.813	0.759	0.973	0.699	0.842
	0.604	0.816	0.761	0.934	0.686	0.829
	0.754	0.942	0.852	0.871	0.770	0.867
	0.698	0.742	0.929	0.931	0.822	0.884
	0.784	0.782	0.846	0.907	0.799	0.744
	0.864	1.002	0.744	0.860	0.756	0.694
	0.858	0.783	0.630	0.922	0.839	0.783
	0.858	0.793	0.829	0.747	0.910	0.944
	0.864	0.856	0.727	0.889	0.847	0.869
	0.789	0.779	0.776	0.747	0.873	0.754
	0.673	0.883	0.718	0.842	0.876	0.772

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	0.631	0.740	0.784	0.763	0.950	0.699
	0.694	0.848	0.834	0.651	0.944	0.731
	0.784	1.029	0.807	0.789	0.832	0.690
	0.747	0.783	0.823	0.910	0.871	0.760
	0.670	0.744	0.633	0.791	0.722	0.691
	0.847	0.889	0.827	0.815	0.863	0.628
	0.768	0.921	0.886	0.803	0.829	0.921
	0.668	0.832	0.733	0.848	0.829	0.742
	0.829	0.714	0.747	0.869	0.902	0.587
	0.758	0.690	0.715	0.888	0.791	0.675
	0.718	0.742	0.726	0.799	0.750	0.749
	0.742	0.783	0.715	0.708	0.908	0.742
	0.639	0.779	0.856	0.842	0.706	0.817
	0.788	0.594	0.640	0.919	0.901	0.668
	0.869	0.957	0.851	0.788	0.841	0.756
	0.783	0.797	0.761	0.868	0.892	0.690
	0.776	0.974	0.723	0.811	0.731	0.833
	0.762	0.913	0.772	0.910	0.886	0.715
	0.832	0.796	0.868	0.970	0.848	0.753
	0.920	0.921	0.919	0.689	0.892	0.690
	0.718	0.806	0.771	0.844	0.868	0.927
	0.829	0.858	0.706	0.787	0.843	0.771
	0.827	0.807	0.808	0.896	0.817	0.755
	0.862	0.805	0.656	0.841	0.892	0.687
	0.827	0.965	0.700	0.755	0.871	0.807
	0.986	0.685	0.836	0.775	0.975	0.790
	0.826	0.612	0.768	0.880	0.879	0.733
	0.847	0.689	0.961	0.747	0.714	0.807
	0.832	0.471	0.753	0.885	0.742	0.628
	0.817	0.727	0.799	0.967	0.715	0.623
	0.868	0.702	0.776	0.916	0.851	0.622
	0.725	0.889	0.668	0.736	0.753	0.694
	0.663	0.847	0.804	0.895	0.761	0.694
	0.705	0.960	0.789	0.747	0.727	0.709
	0.770	0.528	0.720	0.782	0.789	0.891
	0.871	0.638	0.812	0.909	0.772	0.898
	0.775	0.706	0.691	0.895	0.831	0.848
	0.760	0.742	0.623	0.827	0.976	0.839
	0.799	0.768	0.600	0.948	0.895	0.856
	0.680	0.799	0.879	0.917	0.605	0.817
	0.655	0.783	0.835	0.887	0.654	0.782
	0.807	0.843	0.714	0.899	0.803	0.754
	0.779	0.740	0.848	0.958	0.829	0.836
	0.811	0.742	0.998	0.705	0.913	0.690
	0.860	0.799	0.794	0.907	0.908	0.766
Individual Egg Mass Statistics						
N	100	100	100	100	100	100
Mean	0.767	0.788	0.766	0.837	0.834	0.776
Var. (S ²)	0.006	0.011	0.007	0.008	0.007	0.009
SEM	0.008	0.010	0.008	0.009	0.009	0.010
Combined Egg Mass Statistics						
Total N	6					
Site Mean	0.795					
Var. (S ²)	0.001					
SEM	0.013					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	1.284	1.242	1.622	1.507	1.628	1.528
04/18/00	1.444	1.617	1.544	1.512	1.392	1.499
	1.453	1.581	1.314	1.524	1.427	1.440
	1.412	1.696	1.374	1.418	1.474	1.579
STUDY DAY	1.316	1.671	1.441	1.629	1.696	1.411
5	1.278	1.596	1.472	1.652	1.412	1.355
	1.380	1.728	1.426	1.528	1.467	1.342
STAGE	1.244	1.467	1.511	1.667	1.271	1.444
	1.167	1.470	1.407	1.413	1.714	1.526
	1.323	1.736	1.365	1.403	1.599	1.511
	1.294	1.687	1.465	1.563	1.272	1.465
	1.511	1.627	1.351	1.450	1.083	1.333
	1.348	1.268	1.416	1.495	1.482	1.486
	1.354	1.510	1.477	1.580	1.481	1.522
	1.485	1.509	1.336	1.510	1.418	1.530
	1.280	1.674	1.541	1.574	1.645	1.349
	1.296	1.546	1.456	1.748	1.529	1.409
	1.270	1.485	1.782	1.567	1.244	1.612
	1.348	1.509	1.438	1.640	1.490	1.602
	1.094	1.607	1.349	1.740	1.566	1.395
	1.365	1.618	1.586	1.704	1.458	1.448
	1.137	1.401	1.432	1.661	1.651	1.496
	1.362	1.675	1.369	1.497	1.656	1.357
	1.323	1.714	1.676	1.977	1.524	1.234
	1.296	1.649	1.637	1.815	1.606	1.374
	1.601	1.808	1.536	1.407	1.725	1.571
	1.422	1.735	1.411	1.644	1.000	1.562
	1.289	1.815	1.298	1.529	1.516	1.544
	1.602	1.617	1.188	1.613	1.439	1.602
	1.293	1.522	1.704	1.457	1.511	1.396
	1.110	1.726	1.485	1.672	1.412	1.466
	1.438	1.773	1.220	1.760	1.571	1.661
	1.396	1.909	1.512	1.549	1.324	1.543
	1.210	1.687	1.406	1.925	1.432	1.440
	1.347	1.781	1.373	1.799	1.422	1.434
	1.348	1.569	1.160	1.567	1.449	1.405
	1.366	1.571	1.239	1.834	1.478	1.319
	1.246	1.522	1.323	1.564	1.579	1.263
	1.536	1.721	1.406	1.698	1.724	1.321
	1.418	1.701	1.372	1.707	1.647	1.490
	1.621	1.645	1.380	1.723	1.641	1.300
	1.603	1.620	1.513	1.661	1.753	1.217
	1.426	1.644	1.568	1.568	1.559	1.426
	1.428	1.674	1.321	1.789	1.533	1.314
	1.410	1.544	1.281	1.680	1.441	1.261
	1.563	1.712	1.334	1.617	1.483	1.590
	1.426	1.934	1.373	1.509	1.590	1.419
	1.410	1.510	1.463	1.662	1.566	1.170
	1.416	1.693	1.401	1.563	1.464	1.374
	1.506	1.690	1.385	1.250	1.695	1.491
	1.541	1.428	1.478	1.408	1.590	1.627
	1.536	1.461	1.400	1.289	1.735	1.402
	1.296	1.532	1.538	1.268	1.542	1.488
	1.407	1.331	1.322	1.350	1.403	1.661
	1.268	1.705	1.507	1.401	1.484	1.374

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.125	1.536	1.387	1.573	1.443	1.485
	1.277	1.333	1.387	1.426	1.557	1.499
	1.322	1.597	1.634	1.584	1.499	1.490
	1.163	1.497	1.412	1.383	1.380	1.569
	1.065	1.579	1.403	1.449	1.397	1.401
	1.387	1.606	1.510	1.320	1.638	1.619
	1.482	1.563	1.289	1.323	1.598	1.490
	1.391	1.377	1.551	1.372	1.837	1.455
	1.456	1.474	1.239	1.615	1.628	1.396
	1.631	1.588	1.633	1.532	1.645	1.197
	1.372	1.455	1.483	1.688	1.696	1.467
	1.289	1.617	1.340	1.401	1.590	1.271
	1.611	1.452	1.453	1.303	1.476	1.548
	1.496	1.678	1.621	1.517	1.483	1.573
	1.636	1.703	1.570	1.434	1.217	1.402
	1.178	1.631	1.515	1.265	1.307	1.716
	1.161	1.440	1.398	1.524	1.385	1.571
	1.404	1.468	1.369	1.485	1.524	1.474
	1.337	1.457	1.294	1.511	1.718	1.536
	1.239	1.723	1.601	1.400	1.494	1.691
	1.395	1.559	1.465	1.486	1.596	1.288
	1.414	1.581	1.401	1.574	1.557	1.568
	1.520	1.405	1.369	1.689	1.528	1.617
	1.232	1.248	1.244	1.282	1.662	1.977
	1.342	1.564	1.444	1.593	1.697	1.693
	1.321	1.787	1.398	1.628	1.715	1.784
	1.246	1.410	1.334	1.750	1.587	1.595
	1.471	1.571	1.584	1.171	1.687	1.719
	1.018	1.577	1.536	1.581	1.510	1.456
	1.634	1.430	1.385	1.419	1.666	1.571
	1.348	1.294	1.503	1.698	1.474	1.622
	1.327	1.494	1.568	1.706	1.353	1.524
	1.374	1.707	1.470	1.738	1.418	1.407
	1.410	1.654	1.456	1.860	1.577	1.704
	1.269	1.569	1.374	1.478	1.636	1.631
	1.364	1.934	1.437	1.899	1.566	1.635
	1.571	1.644	1.742	1.559	1.731	1.210
	1.434	1.464	1.692	1.612	1.732	1.693
	1.536	1.464	1.265	1.461	1.486	1.483
	1.391	1.531	1.400	1.324	1.766	1.493
	1.381	1.349	1.517	1.479	1.460	1.544
	1.280	1.741	1.406	1.549	1.482	1.627
	1.401	1.537	1.370	1.451	1.392	1.536
	1.602	1.430	1.479	1.569	1.543	
	1.470			1.514	1.511	
Individual Egg Mass Statistics						
N	100	99	99	100	100	98
Mean	1.373	1.582	1.440	1.554	1.527	1.486
Var. (S ²)	0.018	0.020	0.015	0.025	0.021	0.019
SEM	0.013	0.014	0.012	0.016	0.014	0.014
Combined Egg Mass Statistics						
Total N	6					
Site Mean	1.494					
Var. (S ²)	0.006					
SEM	0.032					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.854	1.890	1.504	2.504	2.111	1.987
DATE	1.871	2.069	2.264	2.425	2.010	1.802
04/24/00	1.726	1.798	2.235	2.241	1.901	1.783
	1.718	2.071	2.239	2.424	1.828	1.962
STUDY DAY	1.470	2.092	1.935	2.444	1.828	1.990
11	1.609	1.922	1.922	2.361	1.917	1.947
	1.656	2.112	1.647	2.550	1.852	1.755
STAGE	1.634	1.963	2.025	2.239	1.899	1.846
24	1.528	2.152	2.256	2.626	1.863	1.864
	1.706	2.182	2.638	2.519	1.978	1.563
	1.615	1.785	2.041	2.914	1.875	1.753
	1.790	1.708	2.104	2.121	1.741	1.502
	1.713	1.918	2.072	2.405	2.088	1.489
	1.538	2.045	1.840	2.167	1.978	1.524
	1.641	1.973	2.206	2.308	2.221	1.613
	1.780	2.460	1.719	2.768	2.010	1.647
	2.027	2.488	2.045	2.643	2.092	1.959
	2.202	2.255	2.534	2.518	2.395	1.663
	2.086	2.318	2.045	2.802	1.880	1.458
	1.851	2.273	2.483	2.204	1.778	2.326
	1.524	2.007	2.142	3.017	2.214	1.991
	1.824	2.120	1.999	2.251	1.964	2.095
	1.993	2.062	1.869	2.464	2.525	1.897
	1.477	1.712	1.920	2.334	1.682	1.556
	1.731	1.975	2.806	2.145	1.828	2.089
	2.118	1.766	1.970	2.054	1.589	1.908
	2.018	1.917	2.124	2.117	1.630	2.113
	1.712	2.003	2.233	2.101	1.727	2.254
	1.878	1.881	2.258	2.239	2.019	1.818
	1.539	1.980	2.112	1.980	1.828	1.876
	1.797	2.058	2.522	2.162	1.983	1.914
	1.684	1.736	2.753	2.218	1.850	2.082
	1.801	1.843	2.169	2.156	1.805	1.913
	2.034	1.993	2.047	2.714	1.919	1.819
	1.777	1.893	2.117	2.055	2.041	1.621
	1.922	1.684	2.105	2.101	1.837	1.645
	1.824	2.045	1.962	2.363	2.197	2.019
	1.647	2.361	2.204	2.054	1.751	1.956
	1.955	1.607	2.102	2.170	2.003	1.242
	2.192	2.215	2.236	2.264	2.323	2.711
	2.694	1.929	1.942	2.119	2.107	2.362
	2.192	2.360	2.185	2.146	2.107	2.358
	1.856	2.226	2.421	2.674	2.000	2.333
	2.089	2.132	2.007	2.417	2.163	2.147
	2.339	2.197	2.291	2.043	1.841	2.349
	1.857	2.271	2.446	2.554	1.988	1.761
	1.709	1.704	2.371	2.233	1.811	2.432
	1.580	1.662	2.431	2.127	2.022	2.076
	2.124	2.318	2.138	1.987	2.505	1.927
	1.704	2.193	2.038	1.947	2.077	2.183
	1.741	1.909	2.149	1.846	2.417	2.072
	1.442	1.880	2.356	2.158	1.869	2.006
	1.823	2.310	2.235	1.993	2.220	2.147
	2.012	2.083	2.045	2.385	2.236	1.890
	1.677	1.862	2.181	2.363	2.129	2.003

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
1.649	1.881	2.300	2.295	2.113	1.867
1.727	1.885	2.316	1.998	2.012	1.777
1.612	2.324	2.290	1.989	2.027	1.869
1.572	2.389	2.238	2.628	2.110	2.029
1.788	2.041	2.432	2.197	1.927	1.809
1.835	2.410	2.307	2.112	2.199	1.799
1.823	2.141	2.425	2.035	2.021	1.842
1.869	1.947	2.505	2.337	2.352	1.831
1.828	2.340	2.510	2.497	2.677	1.860
1.854	2.289	2.190	2.346	2.360	2.141
1.766	2.153	2.028	2.148	2.206	1.896
1.888	2.144	2.403	2.600	2.194	1.945
1.770	2.127	2.506	2.046	2.309	1.756
1.961	2.248	2.841	2.164	2.133	2.033
1.863	2.027	2.253	2.229	2.089	1.966
1.718	2.157	1.851	2.029	2.100	2.067
2.154	2.180	2.390	2.219	2.176	1.989
1.988	2.067	1.805	1.924	2.317	2.384
2.104	1.962	2.327	1.884	1.973	1.955
1.944	2.079	2.159	2.287	1.909	2.075
2.055	2.267	2.204	2.391	1.687	1.807
2.098	1.997	2.308	2.209	2.195	2.063
1.864	1.961	2.347	1.809	2.322	1.817
2.485	1.842	2.064	2.101	1.847	2.279
1.769	1.939	2.178	2.091	1.946	2.171
1.470	2.517	2.064	2.274	2.133	2.306
1.936	2.540	2.029	2.200	1.891	2.349
1.867	2.372	2.185	2.011	1.877	2.337
1.799	2.204	2.414	2.166	2.124	2.087
1.882	2.538	2.411	2.212	1.915	1.864
1.750	2.057	2.400	2.662	1.937	2.096
1.560	1.721	2.326	2.592	2.150	2.322
1.958	1.886	2.063	2.270	1.934	2.161
1.941	2.477	1.897	2.518	1.805	1.962
1.921	2.318	2.343	2.068	1.834	1.932
1.947	2.250	2.094	2.613	1.984	1.965
1.619	2.164	1.922	2.534	1.996	1.829
1.931	2.123	1.862	2.197	2.231	2.402
1.813	2.127	2.268	2.388	2.028	1.804
2.010	2.449	2.508	2.087	1.934	2.028
2.257	2.234	2.068	2.055	1.932	2.074
1.676	2.000	2.133	2.551	2.112	2.014
2.195	1.983		2.016	1.939	
1.784	2.125		2.286	1.966	
2.175				2.032	

Individual Egg Mass Statistics						
N	100	99	97	99	100	97
Mean	1.848	2.083	2.194	2.277	2.024	1.964
Var. (S ²)	0.050	0.047	0.056	0.059	0.040	0.061
SEM	0.022	0.022	0.024	0.024	0.020	0.025

Combined Egg Mass Statistics	
Total N	6
Site Mean	2.065
Var. (S ²)	0.024
SEM	0.063

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.273	3.010	3.533	3.175	3.005	2.915
DATE	3.098	2.670	2.955	2.140	3.113	2.947
05/30/00	2.508	2.548	2.904	2.845	2.652	2.554
	2.494	2.877	3.058	2.455	3.414	3.348
STUDY DAY	2.346	2.774	3.664	2.986	2.735	3.516
47	2.640	3.042	3.233	3.107	3.687	2.192
	2.443	2.966	3.485	2.591	2.814	2.732
STAGE	2.986	2.786	2.483	2.529	2.910	2.490
30	3.078	2.937	3.779	3.365	3.118	3.292
	2.563	2.450	3.351	2.955	2.427	2.730
	2.746	2.278	2.998	3.063	2.748	2.160
	2.779	3.028	2.946	3.064	3.513	2.269
	2.828	2.807	3.258	2.669	3.289	2.313
	3.063	2.506	3.043	2.722	2.359	2.776
	2.716	2.570	3.618	2.979	2.655	2.634
	2.347	2.652	3.513	2.444	2.955	3.448
	2.335	2.793	2.560	2.936	2.588	3.333
	2.406	2.612	3.165	2.487	2.577	3.071
	2.830	2.957	2.863	2.421	3.517	2.671
	2.632	2.759	3.013	3.016	2.345	2.795
	2.146	2.543	3.279	2.934	2.205	3.407
	2.499	2.683	2.889	3.469	2.874	3.386
	2.958	3.173	3.352	2.549	2.761	3.450
	2.693	2.855	2.570	2.921	3.074	2.371
	2.406	3.028	3.184	2.302	3.003	2.632
	2.933	2.644	3.958	2.347	3.387	3.011
	2.614	3.546	3.229	2.709	2.858	3.098
	2.709	2.966	2.659	2.725	2.446	2.988
	3.057	3.044	2.812	2.637	2.890	2.994
	3.195	2.939	2.484	2.687	2.378	2.897
	2.410	2.375	3.627	2.858	3.501	2.577
	2.857	3.013	3.058	3.038	2.560	2.875
	2.735	1.981	2.798	3.302	2.601	3.580
	2.978	2.966	3.247	2.289	3.443	2.653
	2.192	3.146	2.361	2.844	2.933	2.141
	2.892	3.102	2.804	2.884	2.216	2.499
	2.699	2.483	3.450	2.632	2.984	3.657
	3.016	2.845	3.028	2.210	2.238	2.534
	2.594	3.071	2.783	3.146	2.976	2.804
	2.825	2.762	2.561	2.267	2.738	2.357
	2.441	2.755	3.001	2.341	2.580	2.344
	2.931	3.034	3.396	2.835	2.738	2.186
	3.489	2.592	2.332	2.955	3.271	3.000
	2.708	2.955	2.695	2.051	1.909	3.386
	2.477	2.576	3.108	2.536	2.175	3.151
	2.728	3.112	2.067	3.112	2.575	2.562
	2.070	2.117	2.208	2.731	2.476	2.824
	3.047	3.070	2.654	3.501	3.124	3.177
	2.107	3.086	3.039	2.781	2.347	2.235
	2.835	2.854	3.186	2.410	2.559	2.686
	3.053	3.362	2.668	3.141	2.574	2.921
	2.659	2.932	2.885	2.753	2.735	3.735
	2.897	2.971	2.820	1.976	3.007	2.517
	3.116	3.053	2.605	2.704	2.753	2.831
	2.746	3.483	2.248	3.262	2.410	2.746

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.541	2.655	2.658	2.486	2.484	2.804
2.557	2.106	3.214	2.311	2.863	2.661
2.727	1.822	3.177	2.483	2.619	2.749
2.838	2.345	3.312	2.708	2.342	2.844
2.132	3.684	3.381	3.336	2.500	2.804
3.248	2.440	2.731	2.846	2.606	2.667
2.495	3.038	2.529	2.623	2.391	3.085
3.153	2.552	3.086	2.934	2.450	2.439
2.619	2.693	3.425	2.536	2.600	2.700
2.643	2.728	2.650	2.854	2.687	2.504
2.838	3.351	2.735	3.173	3.471	2.079
2.609	2.313	2.308	2.970	3.121	2.024
2.933	2.282	3.076	3.195	2.785	2.523
2.982	2.317	2.510	2.222	2.901	2.243
2.472	3.253	3.271	3.069		2.519
2.549	2.526	2.529	2.779		2.781
2.182	2.767	3.112	2.705		2.584
2.483	2.996	3.070	2.611		2.520
2.485	2.825	2.498	2.962		2.487
3.039	2.345	3.089	2.152		2.311
2.594	2.728	2.777	3.184		3.263
2.835	2.825	2.383	2.767		2.514
2.671	2.994	3.136	2.133		3.294
2.745	2.981		2.623		2.199
3.192	2.449		2.323		1.867
2.382	2.170		3.621		3.137
2.553	2.735		2.658		
2.000	2.563		3.558		
2.393	2.314		2.664		
2.700	3.180		2.491		
2.580	2.160		3.254		
1.576	3.105		2.563		
2.410	2.160		2.989		
2.902	2.847		2.966		
2.489			2.536		
2.062			2.529		
			3.176		
			3.319		
			2.653		
			2.636		

Individual Egg Mass Statistics

N	91	89	78	95	69	81
Mean	2.675	2.768	2.963	2.773	2.776	2.765
Var. (S ²)	0.106	0.126	0.158	0.129	0.145	0.174
SEM	0.034	0.038	0.045	0.037	0.046	0.046

Combined Egg Mass Statistics

Total N	6
Site Mean	2.787
Var. (S ²)	0.009
SEM	0.039

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.951	2.930	3.264	3.770	2.508	2.826
DATE	3.030	3.461	3.076	3.705	3.287	3.648
06/26/00	2.290	2.419	2.830	3.412	2.936	3.810
	3.776	2.672	3.693	3.868	2.242	3.764
STUDY DAY	2.932	3.606	3.537	4.055	2.262	3.558
74	1.643	4.111	4.190	2.854	2.576	2.987
	4.013	3.439	3.464	3.214	2.945	2.972
STAGE	2.694	2.786	2.984	3.302	1.423	2.700
34	3.291	2.181	2.671	3.400	3.145	2.857
	3.030	2.798	3.681	1.811	2.836	3.535
	2.605	2.860	3.357	2.610	3.036	3.179
	3.536	2.533	3.162	2.960	3.258	4.050
	3.128	3.006	3.275	2.757	3.101	3.343
	3.316	2.763	3.420	3.077	2.668	3.051
	2.769	2.475	2.716	3.866	3.609	1.757
	2.796	3.164	3.355	3.163	2.919	3.128
	2.001	3.565	2.818	3.292	2.729	3.693
	3.494	2.682	3.264	2.702	2.859	4.153
	2.393	1.768	3.258	3.930	4.741	2.758
	2.497	2.537	3.427	3.259	3.223	3.286
	2.927	3.018	2.659	2.936	3.184	2.096
	3.366	2.903	3.964	3.818	3.438	3.120
	2.711	2.968	4.016	3.200	3.532	3.557
	3.244	2.634	2.497	3.083	2.907	3.280
	3.717	2.383	3.456	2.812	3.510	3.039
	2.813	3.882	2.071	3.301	2.273	3.566
	2.757	3.191	3.721	2.747	3.120	3.363
	3.918	3.646	3.201	2.729	3.743	2.487
	2.526	2.844	3.728	2.193	3.631	3.051
	2.811	2.685	2.600	2.667	2.375	2.973
	3.578	2.421	2.080	3.358	3.612	3.082
	3.580	2.096	3.325	3.133	3.916	2.798
	3.308	2.893	3.526	2.893	2.907	2.628
	2.250	3.815	2.286	3.008	4.218	2.732
	2.613	2.589	3.252	2.501	2.576	3.405
	3.085	3.230	3.362	2.608	3.693	2.973
	3.106	2.926	3.819	2.832	3.603	2.929
	2.512	2.988	2.946	2.886	2.684	3.309
	2.465	2.225	2.542	2.974	4.371	3.783
	2.621	2.956	3.644	4.105	3.396	3.336
	2.982	2.998	2.929	1.768	3.085	4.214
	3.251	2.932	2.893	2.872	3.132	3.659
	2.905	2.934	3.470	3.184	2.768	3.515
	3.459	3.088	3.706	3.575	3.486	2.894
	2.731	3.324	3.099	2.556	3.856	3.174
	2.951	3.655	2.490	3.163	3.189	3.774
	2.904	2.694	3.018	2.822	3.320	3.400
	3.685	3.674	2.521	3.387	2.798	3.203
	3.651	2.707	2.566	2.965	2.140	2.972
	3.839	2.141	2.574	2.509	3.014	3.755
	2.140	2.813	2.716	2.848	3.096	3.298
	2.697	2.724	3.006	2.096	2.640	2.477
	3.222	2.715	3.479	2.616	2.971	3.754
	2.904	3.430	2.939	2.327	2.340	2.591
	2.409	3.260	3.214	3.645	2.518	3.308

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.620	2.756	4.033	1.586	2.914	2.995
2.806	2.760	3.546	3.946	2.354	2.380
2.634	3.294	3.587	4.123	2.708	3.692
2.973	3.283	3.534	3.412	3.018	3.360
2.680	3.467	2.942	1.569	2.824	3.680
2.754	3.156	3.396	3.467	3.061	3.663
2.607	2.595	2.587	3.440	2.822	3.807
3.580	3.432	3.244	3.258	2.935	2.677
2.659	3.559	3.398	3.629		2.201
2.451	2.616	3.549	3.158		3.159
2.680	3.115	3.370	3.370		2.495
2.924	2.778	3.438	2.729		4.385
3.103	2.973	1.990	3.085		3.120
2.704	2.293	2.782	3.806		3.345
2.804	2.419	2.433	3.695		3.322
2.859	3.079	2.610	4.224		2.796
1.750	2.286	3.562	3.693		
2.643	2.585	2.622	3.216		
3.019	2.919	1.893	3.767		
2.910	3.621	1.720	4.251		
2.779	3.287		3.677		
3.088	2.056		2.914		
3.359	3.687		3.110		
3.156	2.438		4.254		
3.061	2.335		3.109		
2.809	2.911		2.746		
2.576	2.621		3.336		
2.495	3.671		3.469		
3.036	2.584		3.457		
2.108			3.788		
2.915					
2.732					
3.991					

Individual Egg Mass Statistics

N	88	84	75	85	63	71
Mean	2.921	2.925	3.107	3.158	3.047	3.206
Var. (S ²)	0.223	0.225	0.285	0.344	0.317	0.255
SEM	0.050	0.052	0.062	0.064	0.071	0.060

Combined Egg Mass Statistics

Total N	6
Site Mean	3.061
Var. (S ²)	0.014
SEM	0.049

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.292	3.717	4.398	3.430	3.340	3.061
DATE	4.091	3.788	2.509	3.147	3.719	4.032
07/27/00	3.381	3.628	2.383	3.863	2.843	3.195
	3.500	3.137	4.888	1.625	3.044	3.587
STUDY DAY	4.068	4.186	3.266	3.699	3.337	3.366
105	2.805	3.535	3.804	4.072	2.764	3.706
	3.863	3.576	2.992	4.490	1.759	1.885
STAGE	4.147	3.036	3.440	3.194	2.891	3.077
38	3.101	4.460	4.680	3.217	4.147	1.874
	2.703	3.061	3.608	3.572	3.414	3.509
	3.575	3.962	4.107	3.096	2.832	4.636
	2.789	3.502	4.312	2.715	3.897	2.402
	3.309	3.737	2.456	3.796	4.348	3.453
	3.469	4.181	3.934	4.113	3.646	3.920
	3.593	3.537	2.064	3.327	3.359	3.716
	3.208	3.311	3.859	3.550	2.876	4.207
	3.596	2.700	3.712	4.541	3.082	3.280
	3.649	3.301	4.117	4.013	3.488	2.893
	4.043	2.861	3.890	2.992	2.756	4.106
	3.214	2.824	4.451	2.490	3.953	3.745
	3.892	3.774	4.664	3.699	2.697	3.236
	2.723	4.014	2.252	4.205	4.147	3.409
	3.914	3.869	4.146	3.721	5.280	3.405
	3.530	3.089	4.156	3.257	2.946	3.389
	3.528	4.123	4.041	3.742	3.623	3.643
	4.019	2.791	4.072	3.635	2.787	3.897
	3.221	3.829	3.597	3.349	2.984	3.611
	3.150	3.263	3.495	3.994	2.410	4.850
	2.634	4.015	3.674	1.889	3.358	3.429
	2.963	3.241	3.692	1.751	3.944	4.792
	3.436	3.754	3.295	3.607	2.769	3.723
	4.072	4.107	5.000	4.245	3.103	3.467
	3.674	3.969	2.972	3.662	2.894	3.787
	3.791	3.626	4.225	3.945	3.115	3.743
	2.971	2.712	3.958	3.660	3.091	3.110
	3.311	2.575	2.588	4.083	3.610	4.087
	2.859	3.603	2.542	3.908	3.944	3.990
	4.165	4.024	2.929		3.903	1.932
	3.131	2.503	2.608		3.036	4.025
	3.328	3.910	4.739		2.782	5.100
	3.530	3.473	3.128		2.652	3.223
	3.720	3.301	3.526		2.995	
	3.765	2.540	4.118		3.037	
	3.394	4.364	3.937		2.713	
	3.559	3.230	2.464		3.724	
	4.627	4.062	4.136			
	4.000	3.576	3.338			
	3.110	3.528	4.298			
	4.027	3.488	3.965			
	4.142	3.266	3.674			
		3.234				
		3.248				
		2.863				
		2.150				
		4.024				

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
		3.430				
		3.133				
		3.182				
		3.993				
		3.508				
		3.244				
		2.669				
<hr/>						
Individual Egg Mass Statistics						
N	50	62	50	37	45	41
Mean	3.512	3.457	3.642	3.494	3.267	3.549
Var. (S ²)	0.210	0.261	0.551	0.477	0.374	0.503
SEM	0.065	0.065	0.105	0.114	0.091	0.111
Combined Egg Mass Statistics						
Total N	6					
Site Mean	3.487					
Var. (S ²)	0.016					
SEM	0.051					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.253	3.715	4.211	5.035	3.823	2.294
DATE	4.321	4.474	4.606		3.506	4.075
08/28/00	4.958	3.601	4.032		4.872	2.936
	4.343	3.516	3.849		4.010	4.214
STUDY DAY	4.363	2.428	4.349		4.114	3.076
137	3.583	3.296	3.978			4.397
	3.826	3.341	4.409			3.297
STAGE	3.090	3.647	4.274			
42	4.206	3.499	4.290			
	4.032	3.189	3.674			
	4.141	4.160				
	3.290	3.765				
	3.782	3.451				
	2.750	2.783				
	3.112					
	2.183					
	3.872					
	3.695					
	3.600					
	4.087					
	2.691					

Individual Egg Mass Statistics

N	21	14	10	1	5	7
Mean	3.675	3.491	4.167	5.035	4.065	3.470
Var. (S ²)	0.445	0.259	0.079	na	0.257	0.605
SEM	0.146	0.136	0.089	na	0.227	0.294

Combined Egg Mass Statistics

Total N	6
Site Mean	3.984
Var. (S ²)	0.350
SEM	0.241

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 41 (WML-1) (0.007 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE		3.475	4.589			
09/07/00		3.970	4.243			
		3.622				
		3.207				
STUDY DAY		3.782				
147		3.963				
		3.333				
STAGE		3.135				
41		3.111				
		3.611				
		3.227				

Individual Egg Mass Statistics

N	0	11	2	0	0	0
Mean	na	3.494	4.416	na	na	na
Var. (S ²)	na	0.102	0.060	na	na	na
SEM	na	0.096	0.173	na	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.955
Var. (S ²)	0.425
SEM	0.461

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)
DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
11	24	1.868	2.043	2.100	2.202	2.234	1.953
47	34	2.902	2.800	2.855	3.081	3.143	2.882
74	40	2.926	3.123	3.107	3.158	3.387	3.247
105	42	2.883	3.510	3.656	3.121	4.304	3.384
137	44	na	3.344	3.217	na	na	4.091
147	44	na	3.427	na	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
11	0.020	0.024	0.025	0.024	0.021	0.026
47	0.070	0.054	0.039	0.066	0.061	0.078
74	0.107	0.070	0.055	0.058	0.115	0.067
105	0.101	0.089	0.190	0.130	0.317	0.087
137	na	0.296	na	na	na	0.300
147	na	0.302	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.657	2.351	2.056	2.268	2.332	2.017
DATE	1.711	1.947	1.773	2.409	2.377	2.158
04/24/00	1.730	2.395	2.194	2.679	2.264	2.281
	1.631	2.245	1.701	2.390	2.102	2.157
STUDY DAY	2.063	2.446	2.146	2.440	2.068	2.035
11	1.441	1.788	1.876	2.250	1.730	1.814
	1.613	2.196	1.971	2.201	1.896	1.994
STAGE	1.753	1.901	1.881	2.213	1.913	2.153
24	1.628	2.096	2.293	2.224	2.272	1.916
	1.552	2.001	2.078	2.271	2.550	1.834
	1.552	2.212	1.238	2.074	2.210	2.125
	1.841	2.147	1.753	2.421	2.323	2.175
	1.591	1.664	1.847	2.377	2.484	2.033
	1.625	1.909	1.916	2.253	2.237	1.695
	1.822	2.233	1.951	2.486	2.118	2.206
	1.750	1.822	2.443	2.354	2.337	1.800
	1.609	2.286	1.974	2.586	2.202	1.761
	1.799	2.048	2.385	2.315	2.504	2.020
	1.789	2.182	1.916	2.335	2.232	2.029
	1.661	2.289	1.951	1.845	2.115	1.747
	1.742	2.326	1.875	2.448	2.485	2.139
	1.997	2.418	1.845	2.335	1.913	1.945
	1.406	2.443	1.976	2.167	2.153	1.747
	1.536	2.097	2.075	1.988	2.228	2.175
	1.751	2.019	2.153	1.942	2.100	2.065
	1.814	2.156	2.390	2.224	2.562	2.071
	1.858	2.351	2.167	2.122	2.593	1.751
	1.958	1.944	2.086	2.115	2.033	1.875
	1.822	1.941	2.080	1.795	2.293	2.013
	1.844	2.228	2.246	2.108	2.348	2.056
	1.782	2.254	2.585	2.125	2.310	2.082
	1.923	2.162	2.240	2.312	2.402	1.881
	1.943	2.006	1.769	2.250	1.692	2.669
	2.275	2.461	2.582	2.250	1.795	2.047
	1.858	2.441	2.237	2.041	2.144	2.056
	1.801	2.478	1.945	2.461	2.215	1.982
	1.645	1.943	2.426	2.419	2.139	2.283
	1.667	2.148	2.625	2.329	2.447	1.651
	1.946	2.243	2.001	2.222	2.401	1.375
	2.041	1.968	2.441	2.158	2.196	2.257
	1.846	1.971	2.488	2.224	2.553	2.095
	2.056	1.888	2.252	2.280	2.569	2.125
	1.579	1.976	2.569	1.848	1.939	1.742
	1.485	1.834	2.648	1.877	2.001	1.859
	1.692	2.275	2.068	2.096	2.455	1.768
	1.719	1.702	2.167	2.471	2.213	1.657
	1.939	1.945	2.305	2.268	2.048	2.395
	1.929	1.850	2.392	2.126	2.158	2.253
	1.967	1.672	2.323	2.625	1.838	2.107
	2.117	2.016	2.153	2.259	2.190	2.423
	2.135	1.943	2.148	1.953	2.140	2.221
	1.844	1.797	2.357	2.630	2.377	2.188
	2.035	1.645	1.944	2.235	2.408	1.640
	2.326	1.842	2.041	2.144	2.541	1.956
	2.000	1.812	2.095	2.183	2.191	1.679

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
1.907	2.289	2.125	2.519	2.155	2.171
1.834	2.128	1.962	2.198	2.488	1.870
1.976	1.881	1.847	1.925	2.422	1.570
1.818	2.016	1.845	2.267	2.116	2.144
1.962	2.094	2.217	1.577	2.305	1.554
1.822	2.160	2.224	2.520	2.329	2.142
2.283	1.865	2.206	1.953	2.193	2.194
1.790	2.028	1.986	1.880	2.157	2.187
1.820	2.168	1.963	1.905	2.431	1.850
2.111	2.095	2.227	2.146	2.233	1.482
2.028	2.138	2.404	2.164	2.272	2.195
2.171	2.372	1.845	2.298	2.411	1.912
2.108	2.310	2.006	1.903	2.440	1.597
2.327	2.047	2.100	2.481	2.227	1.766
2.213	2.167	2.107	2.470	1.875	1.688
1.827	2.153	2.357	2.085	2.357	2.253
2.028	2.078	1.987	2.224	2.656	1.695
2.122	2.155	2.285	2.554	2.158	2.037
1.896	2.275	1.873	2.196	2.323	1.865
1.902	0.993	2.163	2.357	2.392	1.818
1.878	1.569	2.125	1.730	2.198	1.902
2.035	1.900	2.018	1.888	2.362	2.012
1.601	1.919	2.016	2.182	1.985	1.978
1.618	1.628	2.086	1.870	2.139	1.997
1.881	1.700	1.970	1.516	1.902	1.869
1.710	1.770	1.838	2.254	2.230	1.797
1.896	1.700	1.625	2.323	2.054	1.544
1.742	1.968	1.875	2.418	2.431	1.947
1.910	2.074	1.733	2.419	1.928	2.075
1.945	2.163	2.462	2.364	2.416	2.070
1.730	2.327	1.982	2.079	1.898	1.831
1.803	1.942	2.201	2.055	2.102	1.342
1.973	1.978	2.206	2.237	2.364	1.318
2.026	2.082	2.200	2.006	1.958	
2.085	1.906	2.250	2.048	2.276	
2.092	2.115	1.729	2.531	2.071	
1.981	1.975	2.109	2.031	2.502	
2.010	2.056	2.188	2.253	2.332	
2.188	1.950	1.913	1.503	2.334	
1.726	1.838	2.206	2.364	2.342	
2.090	2.048	2.082	2.231	2.377	
2.016	1.772				
1.875	2.119				
2.107	2.017				

Individual Egg Mass Statistics

N	99	99	96	96	96	88
Mean	1.868	2.043	2.100	2.202	2.234	1.953
Var. (S ²)	0.040	0.056	0.058	0.056	0.043	0.061
SEM	0.020	0.024	0.025	0.024	0.021	0.026

Combined Egg Mass Statistics

Total N	6
Site Mean	2.067
Var. (S ²)	0.020
SEM	0.058

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	2.875	2.999	2.735	4.481	3.408	2.245
05/30/00	3.734	2.850	3.074	5.289	4.102	3.247
STUDY DAY	3.088	3.296	2.933	4.418	2.937	3.131
47	2.574	2.478	2.083	4.169	2.913	3.505
STAGE	2.698	2.472	2.789	4.299	3.326	2.543
34	2.835	3.127	2.544	2.580	2.268	2.554
	3.935	2.691	2.705	2.683	3.050	5.280
	2.755	2.268	3.371	2.921	3.050	3.319
	3.568	3.341	2.574	3.147	2.377	2.844
	2.673	2.613	2.350	3.517	2.986	3.202
	3.438	3.312	3.146	2.444	2.966	3.401
	2.637	2.464	2.804	2.484	2.323	2.994
	2.785	3.841	2.854	2.561	3.754	2.152
	3.011	2.962	2.771	2.600	2.986	2.220
	3.146	3.657	3.640	2.973	2.677	2.976
	2.875	2.955	2.829	2.735	3.107	2.586
	2.951	3.379	3.158	2.794	3.069	2.650
	2.468	2.383	3.269	2.759	3.164	2.785
	3.305	2.981	2.915	2.870	2.637	2.305
	2.166	3.116	2.971	2.637	3.305	1.912
	2.314	3.123	2.877	2.733	3.179	3.170
	2.661	2.655	3.116	3.082	3.502	3.229
	2.140	3.389	2.596	3.386	3.497	3.940
	1.996	3.663	2.019	2.269	3.576	1.452
	2.523	3.754	2.869	3.175	3.801	3.690
	2.347	3.553	2.978	3.016	3.580	2.469
	2.683	4.094	3.572	2.882	3.552	1.867
	2.870	3.949	2.814	3.195	2.809	2.137
	2.386	3.157	2.491	2.822	3.351	2.898
	3.103	3.261	2.510	2.928	3.586	2.767
	3.140	3.396	2.642	3.199	3.841	1.976
	3.093	2.887	3.655	2.858	3.317	2.449
	2.669	2.259	2.209	3.206	3.261	2.855
	2.372	2.305	3.000	2.345	2.536	2.323
	3.093	1.975	2.576	3.692	3.368	3.104
	2.890	2.344	2.577	2.746	3.326	2.985
	2.408	3.014	2.561	2.930	2.756	3.505
	4.008	2.946	3.391	3.055	2.910	3.396
	3.511	2.667	2.758	3.256	2.793	3.875
	3.597	1.789	2.907	2.840	3.179	3.463
	3.380	2.049	3.058	2.828	3.588	3.542
	3.146	2.327	3.105	3.085	2.504	2.790
	3.148	2.314	2.644	2.083	3.312	2.621
	2.858	2.707	3.019	3.299	3.366	3.389
	2.727	2.777	2.384	3.422	2.731	2.523
		2.449	2.877	2.868	3.345	1.434
		2.420	2.084	3.483	2.759	3.389
		2.759	2.683	3.541		2.735
		2.731	2.785	2.607		2.450
		2.425	3.549	3.513		2.382
		2.669	2.936	3.292		2.726
		3.324	2.644	3.209		3.005
		2.392	2.220	2.644		3.214
		2.438	2.828	3.138		2.693
		2.855	2.756	3.043		3.211

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.271	3.000	3.210		3.023
	2.491	3.036	3.442		2.217
	3.248	2.555	3.348		3.414
	2.835	3.424	3.097		2.259
	2.690	3.239	2.469		3.183
	2.329	3.302	2.237		3.439
	2.618	2.669	2.854		3.621
	2.634	3.277	2.637		2.961
	2.612	2.749	3.172		3.165
	1.993	3.055	2.772		2.530
	2.530	2.850	3.655		
	2.152	2.105	3.318		
	2.350	2.863	2.672		
	3.454	2.820	2.529		
	2.953	2.738	3.307		
	2.653	2.813	4.010		
	2.483	3.099	1 larvae missing from count		
	2.591	3.173			
	2.875	3.136			
	2.514	3.234			
	3.024	3.389			
	2.814	2.781			
	2.476	3.131			
	2.641	3.078			
		2.454			
		2.520			
		2.921			
		2.690			
		3.080			
		2.294			

Individual Egg Mass Statistics

N	45	79	85	71	47	65
Mean	2.902	2.800	2.855	3.081	3.143	2.882
Var. (S ²)	0.218	0.234	0.128	0.310	0.175	0.397
SEM	0.070	0.054	0.039	0.066	0.061	0.078

Combined Egg Mass Statistics

Total N	6
Site Mean	2.944
Var. (S ²)	0.019
SEM	0.056

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.529	3.027	3.032	2.510	4.278	3.610
DATE	3.440	2.352	2.374	3.084	3.576	2.982
06/26/00	3.628	2.483	2.905	3.186	3.886	2.902
	3.298	4.101	2.765	3.335	3.393	4.091
STUDY DAY	3.058	2.933	3.107	2.500	2.875	2.937
74	2.861	3.323	1.934	2.953	4.354	3.053
	3.051	3.562	3.150	2.408	3.934	2.522
STAGE	3.577	3.679	3.283	2.894	4.381	3.274
40	2.566	2.492	2.731	3.108	2.383	3.383
	3.243	3.696	3.166	3.384	3.124	3.341
	2.870	3.471	3.562	3.649	3.890	3.719
	2.193	3.572	2.929	2.879	3.614	4.091
	2.817	3.565	2.357	2.835	2.324	3.381
	2.316	4.247	2.806	3.560	2.672	3.386
	1.944	3.477	3.388	2.616	2.975	2.907
	2.575	3.685	3.219	4.023	3.278	3.784
	3.626	3.654	3.253	3.190	3.532	3.012
	2.639	3.457	2.830	2.788	2.936	2.985
	2.478	2.637	2.926	2.879	3.545	3.250
	3.067	2.722	2.637	3.545	3.418	3.354
	2.667	4.129	2.893	3.476	3.572	3.180
		2.931	2.795	3.451	3.816	3.398
		2.813	2.963	3.479	3.215	3.095
		2.807	3.699	2.805	3.072	2.780
		3.532	2.980	3.370	2.620	2.556
		2.715	3.877	2.715		3.316
		2.487	2.557	3.442		3.969
		2.901	2.151	2.868		2.758
		2.364	2.739	2.863		3.172
		2.644	2.587	2.719		4.221
		3.728	3.119	3.482		3.311
		3.112	3.210	2.873		3.602
		3.857	2.082	2.844		3.070
		2.435	3.179	3.788		3.674
		3.638	3.001	3.537		3.553
		2.542	2.702	3.715		3.214
		2.572	3.621	3.179		3.203
		3.727	2.879	3.047		3.693
		2.748	2.787	2.795		2.765
		2.859	3.085	3.474		2.689
		2.637	2.181	3.466		2.616
		4.013	3.640	2.477		3.536
		3.208	2.817	3.643		2.688
		2.628	3.063	2.551		2.338
		3.301	2.915	3.900		3.773
		2.907	3.382	2.388		
		3.874	3.286	3.128		
		3.061	3.532	3.202		
		3.796	3.530	3.466		
		2.303	2.566	2.352		
		1.863	3.649	3.984		
		3.931	3.800	3.628		
		2.625	3.227	3.493		
		2.273	3.919	3.057		
		2.317	3.687	3.863		

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.116	3.378	3.068		
	2.894	3.649	3.073		
	4.022	3.829			
	3.355	3.334			
	2.966	3.696			
	3.109	2.829			
	2.646	3.526			
	3.116	3.210			
	2.876	3.872			
	3.483	2.993			
		3.407			
		3.510			
		2.365			
		2.957			
		2.715			
		3.387			
		3.810			
		3.179			
		3.271			
		2.259			
		3.707			
		4.497			
		3.660			
		2.601			
		3.038			
		2.542			

Individual Egg Mass Statistics

N	21	65	81	57	25	45
Mean	2.926	3.123	3.107	3.158	3.387	3.247
Var. (S^2)	0.241	0.317	0.243	0.191	0.331	0.200
SEM	0.107	0.070	0.055	0.058	0.115	0.067

Combined Egg Mass Statistics

Total N	6
Site Mean	3.158
Var. (S^2)	0.024
SEM	0.063

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.657	2.733	3.789	2.486	3.986	3.055
DATE	3.309	3.771	3.798	2.704	4.621	3.119
07/27/00	2.833	3.057	4.037	2.712		3.847
	2.217	3.511	2.489	1.434		3.941
STUDY DAY	2.650	3.931	4.170	2.553		3.348
105	3.237	3.815	3.917	3.572		3.854
	2.810	2.529	4.113	3.396		3.254
STAGE	3.424	3.341	2.936	3.402		3.754
42	2.785	2.890	3.651	3.157		3.285
	2.554	3.083		3.197		2.677
	2.946	3.386		2.698		2.961
	3.390	3.428		2.777		3.379
	3.419	3.405		3.326		3.271
	2.621	4.106		3.911		2.970
	2.395	3.817		2.956		3.454
		3.989		3.345		3.947
		3.747		4.084		3.275
		3.565		2.798		3.515
		3.728		1.830		
		3.112		3.534		
		4.511		4.060		
		3.695		3.115		
		3.588		3.887		
		3.632		3.706		
		3.379		3.389		
		Tub D				
		(12 larvae)				
		missing from				
		count				

Individual Egg Mass Statistics

N	15	25	9	25	2	18
Mean	2.883	3.510	3.656	3.121	4.304	3.384
Var. (S ²)	0.152	0.198	0.326	0.419	0.202	0.135
SEM	0.101	0.089	0.190	0.130	0.317	0.087

Combined Egg Mass Statistics

Total N	6
Site Mean	3.476
Var. (S ²)	0.241
SEM	0.200

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE		3.501	3.217			4.722
08/28/00		3.397				3.727
		4.594				3.875
		2.800				4.533
STUDY DAY		3.285				4.016
137		2.486				3.405
						3.293
STAGE						3.880
44						3.326
						3.478
						6.741

Individual Egg Mass Statistics

N	0	6	1	0	0	11
Mean	na	3.344	3.217	na	na	4.091
Var. (S ²)	na	0.525	na	na	na	0.991
SEM	na	0.296	na	na	na	0.300

Combined Egg Mass Statistics

Total N	3
Site Mean	3.550
Var. (S ²)	0.223
SEM	0.273

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) (0.013 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE		4.106				
09/07/00		3.597				
		3.972				
		2.923				
STUDY DAY		2.540				
147						
STAGE						
44						

Individual Egg Mass Statistics

N	0	5	0	0	0	0
Mean	na	3.427	na	na	na	na
Var. (S ²)	na	0.457	na	na	na	na
SEM	na	0.302	na	na	na	na

Combined Egg Mass Statistics

Total N	1
Site Mean	3.427
Var. (S ²)	na
SEM	na

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)
 DATA SUMMARY

Mean Length (cm)

DAY	STAGE ON DAY SCORED	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
11	24	2.143	2.075	2.247	2.295	2.214	2.235
47	34	2.970	2.952	3.075	3.191	3.453	2.993
74	40	3.539	3.407	3.986	3.862	4.236	4.067
105	44	3.493	3.895	4.467	4.225	na	4.068
126	44	3.692	na	na	na	na	na

Standard Error of Mean (SEM)

DAY	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
11	0.025	0.023	0.022	0.023	0.028	0.034
47	0.096	0.072	0.051	0.058	0.098	0.040
74	0.077	0.125	0.087	0.090	0.214	0.080
105	0.175	na	0.218	0.191	na	0.218
126	0.155	na	na	na	na	na

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.840	2.355	2.067	2.273	1.683	2.259
DATE	2.258	2.121	2.546	1.913	2.045	2.107
04/24/00	1.937	2.238	2.063	2.103	1.972	2.356
	1.968	2.366	2.033	1.968	2.350	2.052
STUDY DAY	2.327	2.673	2.163	2.297	2.429	1.853
11	2.261	2.123	1.578	2.230	2.575	1.945
	2.240	2.163	1.990	2.021	2.071	1.794
STAGE	2.366	1.924	2.436	2.395	2.450	1.941
24	1.930	2.113	2.303	2.350	2.446	2.235
	2.040	2.185	2.005	2.380	2.457	2.270
	2.398	2.402	2.215	2.781	2.281	2.469
	2.039	2.008	2.255	2.521	2.283	2.467
	2.313	2.043	1.867	2.540	2.209	2.363
	2.337	2.226	2.130	2.040	1.635	2.113
	2.281	2.127	2.069	2.082	1.930	1.612
	2.040	1.871	2.021	1.627	2.071	2.301
	2.253	2.121	2.626	2.037	1.717	2.045
	1.925	2.230	2.441	2.264	2.135	1.995
	2.205	2.158	2.196	2.420	2.457	2.581
	2.461	2.329	2.238	2.331	1.957	1.985
	1.682	2.369	1.890	2.127	2.162	1.676
	1.968	2.318	2.452	2.583	2.326	2.272
	1.753	2.103	2.448	2.561	2.341	1.708
	2.159	2.238	2.398	2.751	2.238	2.035
	2.457	2.366	1.779	2.393	1.962	2.202
	2.254	1.706	2.259	2.438	2.568	2.357
	2.227	1.676	2.395	2.081	2.234	2.065
	2.355	1.621	2.493	2.358	2.192	2.218
	2.158	1.853	2.422	2.240	2.546	1.940
	1.974	2.138	2.348	1.786	2.057	2.646
	1.904	1.711	2.077	1.975	2.481	2.159
	2.258	2.026	2.425	1.841	2.273	1.908
	2.499	2.704	2.533	2.348	2.575	2.330
	2.066	2.230	2.230	2.052	2.389	2.294
	2.004	2.309	2.296	2.135	2.427	2.360
	2.078	1.774	2.407	2.135	2.613	2.000
	2.237	1.942	2.395	2.336	2.026	1.942
	2.549	2.355	2.251	2.093	2.582	2.500
	2.369	2.002	2.623	2.165	2.632	2.526
	1.837	2.442	2.164	1.969	2.602	2.197
	1.890	2.504	1.843	2.235	2.222	2.145
	2.291	2.240	2.033	2.426	1.811	2.318
	2.217	1.935	2.258	2.635	2.549	2.150
	1.955	2.055	1.975	2.097	2.309	2.066
	2.183	1.881	2.355	2.561	2.013	2.387
	2.316	2.338	2.145	2.429	2.336	2.008
	2.004	2.020	2.526	2.129	2.467	2.230
	1.847	1.782	2.021	1.904	2.326	2.077
	2.197	1.734	2.013	2.303	2.388	2.214
	2.577	2.300	2.298	2.371	2.543	1.492
	2.067	1.972	2.537	2.202	2.360	2.099
	2.614	2.185	2.419	2.019	1.903	2.407
	2.581	2.074	2.033	2.366	2.177	2.278
	2.095	1.469	2.033	2.391	1.990	2.168
	1.827	2.051	2.425	2.398	2.232	1.942

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.139	1.917	2.066	1.942	2.300	2.100
	2.247	2.031	2.309	2.300	2.061	2.254
	1.593	1.969	2.194	2.165	2.020	2.459
	2.045	1.809	2.225	2.216	2.165	2.269
	2.069	1.949	2.607	2.360	2.381	2.278
	2.414	2.037	1.904	2.125	2.120	2.379
	2.411	1.941	2.419	2.177	2.474	2.524
	2.224	1.964	2.443	2.284	2.025	4.543
	2.418	1.781	2.309	2.309	2.477	2.386
	2.418	2.296	2.329	1.905	2.334	2.213
	2.355	2.067	2.241	2.318	2.105	2.197
	2.258	1.725	2.366	2.190	2.146	1.965
	1.847	1.968	2.419	2.398	2.183	2.121
	2.234	1.881	2.497	2.256	1.821	2.638
	2.510	2.334	2.165	2.769	1.552	1.888
	2.292	1.575	2.329	2.481	2.591	2.187
	2.613	2.009	1.971	2.516	2.583	1.629
	2.128	2.026	2.085	2.516	2.145	1.879
	1.818	2.205	2.140	2.257	2.310	2.277
	1.589	2.035	2.194	2.266	2.669	2.383
	2.040	1.899	2.103	2.167	2.017	2.418
	1.995	1.832	2.413	2.247	2.097	1.936
	2.355	2.164	2.425	2.207	2.594	2.488
	1.779	2.183	2.256	2.259	1.604	2.442
	2.066	2.128	2.324	2.582	1.449	2.582
	2.097	2.167	2.381	2.316	2.081	2.573
	1.817	1.722	1.953	2.363	2.082	2.168
	2.194	1.657	1.913	2.549	2.600	2.372
	2.032	1.918	1.910	2.308	2.183	2.571
	2.197	2.265	2.450	2.467	1.991	2.418
	1.268	2.097	2.020	2.512	1.885	2.137
	2.363	2.008	2.123	2.754	2.123	2.265
	1.929	2.163	2.552	2.449	1.988	2.392
	2.389	2.136	2.179	2.597	2.534	2.663
	2.154	2.131	2.296	2.371	2.008	2.296
	2.163	2.277	2.505	2.402	2.452	2.424
	2.177	2.106	2.130	2.474	2.785	2.165
	2.418	2.222	1.974	2.049	1.821	2.512
	1.711	2.257	2.518	2.243	2.005	2.402
	1.930	2.133	2.615	2.901	2.427	2.092
	2.053	2.083	2.713	2.551	1.913	2.369
	2.300	2.211	2.462	2.606	1.915	2.265
		2.230	2.341	2.313	2.194	2.465
		1.746		2.347	2.123	
		2.065			2.030	
Individual Egg Mass Statistics						
N	97	100	98	99	100	98
Mean	2.143	2.075	2.247	2.295	2.214	2.235
Var. (S^2)	0.062	0.052	0.049	0.053	0.076	0.115
SEM	0.025	0.023	0.022	0.023	0.028	0.034
Combined Egg Mass Statistics						
Total N	6					
Site Mean	2.202					
Var. (S^2)	0.006					
SEM	0.032					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.659	1.757	3.477	2.989	3.165	2.532
DATE	2.279	2.901	3.442	2.768	3.674	3.483
05/30/00	3.254	2.632	4.066	3.252	3.345	2.883
	2.587	2.683	3.199	3.449	3.362	3.241
STUDY DAY	2.902	2.233	3.605	3.526	2.802	2.776
47	2.992	2.835	3.839	3.414	3.025	3.111
	2.926	3.341	3.148	2.807	3.207	3.080
STAGE	2.907	2.286	3.195	3.509	3.143	2.518
34	3.248	3.341	3.112	2.743	3.730	2.888
	2.365	2.854	3.625	3.158	3.830	3.293
	2.750	2.585	2.928	3.517	2.631	2.952
	2.494	3.161	2.881	2.513	3.465	3.311
	2.484	3.000	2.549	2.727	2.971	2.966
	2.554	2.642	2.277	3.054	3.594	2.936
	3.241	3.263	2.028	3.182	3.146	3.209
	3.336	3.243	2.841	2.738	2.690	2.440
	2.259	3.328	2.435	2.871	3.868	3.044
	3.316	2.894	3.519	2.410	2.861	3.244
	2.228	3.050	3.036	3.216	4.885	3.074
	3.247	3.587	3.690	2.586	3.363	3.084
	2.203	2.743	3.763	2.292	2.892	3.382
	3.086	2.883	3.071	3.000	2.761	2.585
	2.900	3.532	2.486	3.507	3.379	2.969
	3.065	5.637	2.769	4.552	3.375	2.682
	2.029	2.931	3.343	3.148	3.121	2.320
	2.801	3.060	2.718	3.627	3.789	3.261
	2.450	2.929	3.600	3.152	3.584	2.454
	3.127	2.678	2.629	3.176	3.872	3.532
	2.841	3.558	2.507	3.999	4.310	3.263
	2.653	3.187	3.033	3.052	3.851	3.044
	3.082	2.630	2.226	2.814	4.073	3.454
	2.715	3.118	3.430	3.519	4.732	3.217
	2.857	3.135	3.106	3.356		3.172
	3.534	3.138	2.618	4.252		3.258
	2.840	2.375	2.870	3.052		3.463
	2.443	2.902	3.613	3.713		3.143
	2.705	2.887	2.845	3.446		3.073
	3.121	2.831	2.998	2.879		2.894
	2.857	2.544	3.447	3.319		3.046
	2.817	3.312	3.014	3.001		2.708
	2.967	2.767	3.016	2.970		2.978
	2.271	2.939	2.936	1.966		2.946
	2.454	2.171	3.922	3.476		2.497
	2.520	3.182	3.484	3.621		2.726
	2.517	2.590	3.328	3.691		3.291
	2.718	2.835	3.414	3.386		2.369
	2.677	3.360	3.116	2.786		3.584
	1.455	2.750	3.237	3.139		3.538
	4.612	2.712	2.910	2.769		2.858
	4.244	2.408	3.242	3.337		3.637
	4.227	2.966	2.361	2.601		3.182
	4.147	1.968	3.548	3.045		3.864
	4.430	3.453	2.561	3.280		3.150
	4.755	2.913	3.107	3.679		2.378
	5.200	3.161	3.050	3.365		2.737

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.554	3.282	3.436		2.857
	3.892	2.752	3.396		2.671
		3.287	3.439		2.588
		2.864	3.152		3.206
		3.348	2.678		1.990
		2.531	2.822		2.870
		3.221	3.092		3.223
		3.468	4.150		3.381
		2.984	3.663		2.726
		2.764			2.936
		3.375			2.944
		3.166			3.088
		2.553			3.242
		2.555			3.208
		3.330			3.396
		2.602			2.406
					2.812
					2.884
					3.312
					2.587
					2.753
					3.731
					2.690
					2.401
					2.693
					3.003
					3.071

Individual Egg Mass Statistics

N	55	57	71	64	32	82
Mean	2.970	2.952	3.075	3.191	3.453	2.993
Var. (S ²)	0.506	0.296	0.187	0.213	0.305	0.131
SEM	0.096	0.072	0.051	0.058	0.098	0.040

Combined Egg Mass Statistics

Total N	6
Site Mean	3.105
Var. (S ²)	0.037
SEM	0.078

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	2.641	2.322	4.801	4.045	4.608	4.462
06/26/00	3.494	4.040	4.447	3.620	5.128	3.387
STUDY DAY	3.726	3.870	4.538	3.639	5.599	4.033
74	2.732	3.280	4.082	4.040	4.187	4.256
STAGE	2.652	4.537	4.230	3.562	4.672	4.512
40	3.354	4.403	4.162	3.951	4.333	3.455
	2.435	3.415	3.942	3.619	3.053	3.561
	4.386	3.893	3.685	2.687	3.783	4.438
	4.088	3.259	4.223	3.928	3.420	3.565
	2.412	2.016	4.061	3.854	2.941	4.415
	3.667	2.787	3.326	3.912	5.031	4.619
	3.593	3.443	4.267	4.002	4.519	4.664
	3.930	3.719	4.878	4.531	4.025	4.029
	3.599	4.457	3.633	4.387	3.139	3.373
	2.956	3.076	3.629	4.086	5.099	3.963
	4.126	2.787	4.817	3.979		3.620
	2.815	2.787	2.336	3.551		2.987
	3.505	3.256	3.704	3.500		4.338
	3.562	2.844	3.010	4.227		3.526
	3.889	2.960	3.916	3.995		2.634
	3.605	3.071	4.077	3.326		3.125
	3.965	3.792	4.181	3.338		3.784
	3.584	4.052	3.520	3.812		5.005
	4.453	3.513	4.045	4.136		5.342
	3.667	3.826	3.489	3.387		4.929
	3.374	3.170	4.147	3.267		2.860
	4.146		3.415	4.003		3.855
	3.800		4.584	4.853		4.662
	3.267		4.227	3.893		4.286
	3.577		3.953	4.958		3.729
	2.895		3.960	4.761		4.687
	3.154		3.097	3.926		4.704
	3.801		4.112	3.725		5.126
	2.952		3.949	2.734		4.371
	3.185		5.063	2.918		3.629
	3.044		4.142	2.590		4.488
	3.489		2.074	4.266		4.704
	4.092		4.788	3.162		3.304
	4.376		3.934	2.959		4.422
	4.165		3.726	4.663		3.577
	3.963		4.410	4.865		4.070
	3.940		4.227	3.969		4.504
	3.417		2.853	4.415		4.259
	4.087		4.333	4.037		4.489
	3.850		4.684	2.409		3.785
	3.395		3.975	4.429		3.984
			4.373	4.616		3.949
			5.228	4.820		4.488
			4.434			4.026
			4.078			4.232
			4.092			3.462
			3.625			4.337
			2.783			3.396
						4.191

VERNAL POOL RANA sylvatica STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
Individual Egg Mass Statistics						
N	46	26	53	48	15	54
Mean	3.539	3.407	3.986	3.862	4.236	4.067
Var. (S ²)	0.276	0.408	0.398	0.390	0.689	0.349
SEM	0.077	0.125	0.087	0.090	0.214	0.080
Combined Egg Mass Statistics						
Total N	6					
Site Mean	3.849					
Var. (S ²)	0.102					
SEM	0.130					

VERNAL POOL RANA sylvatica STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (0.011 mg/kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.176	3.895	4.461	4.392		4.305
DATE	2.972		4.302	4.191		3.367
07/27/00	3.579		5.066	4.400		4.701
	3.081		4.038	3.301		4.518
STUDY DAY	3.324			3.728		3.968
105	2.072			4.362		3.549
	3.929			4.268		
STAGE	2.547			5.156		
44	4.176					
	3.764					
	3.900					
	3.056					
	4.201					
	4.409					
	4.210					

Individual Egg Mass Statistics

N	15	1	4	8	0	6
Mean	3.493	3.895	4.467	4.225	na	4.068
Var. (S ²)	0.459	na	0.190	0.293	na	0.286
SEM	0.175	na	0.218	0.191	na	0.218

Combined Egg Mass Statistics

Total N	5
Site Mean	4.029
Var. (S ²)	0.134
SEM	0.164

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 20 (8-VP-1), 14.5 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H2-TA02RS20-0-EM06	35	6	17.1			
H2-TA02RS20-0-EM07	29	4	13.8			
H2-TA02RS20-1-EM07	29	3	10.3			
H2-TA02RS20-0-EM08	19	2	10.5			
H2-TA02RS20-0-EM09	14	2	14.3			
H2-TA02RS20-0-EM10	27	3	11.1			
Average for Site	25.5	3.3	12.9	7.215	1.097	20.876

SITE 21 (38-VP-2), 62.0 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA08RS21-0-EM06	42	6	14.3			
H3-TA08RS21-1-EM06	46	6	13.0			
H3-TA08RS21-0-EM07	54	9	16.7			
H3-TA08RS21-0-EM08	36	6	16.7			
H3-TA08RS21-0-EM09	50	13	26.0			
H3-TA08RS21-0-EM10	50	7	14.0			
Average for Site	46.3	7.8	16.8	22.589	1.940	28.329

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 22 (46-VP-5), 2.2 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA08RS22-0-EM06	63	3	4.8			
H3-TA08RS22-0-EM07	75	2	2.7			
H3-TA08RS22-0-EM08	77	1	1.3			
H3-TA08RS22-0-EM09	67	2	3.0			
H3-TA08RS22-0-EM10	29	1	3.4			
H3-TA08RS22-1-EM10	62	2	3.2			
Average for Site	62.2	1.8	3.1	1.267	0.460	36.738

SITE 27 (18-VP-2), 6.05 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA04RS27-0-EM01	1	1	100.0			
H3-TA04RS27-1-EM01	Egg Mass Necrotic		-			
H3-TA04RS27-0-EM02	7	1	14.3			
H3-TA04RS27-0-EM03	2	0	0.0			
H3-TA04RS27-0-EM04	0	-	-			
H3-TA04RS27-0-EM05	2	0	0.0			
Average for Site	2.4	0.5	28.6	2312.925	24.046	168.325

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 28 (23b-VP-1), 0.19 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA05RS28-0-EM01	8	0	0.0			
H3-TA05RS28-1-EM01	2	0	0.0			
H3-TA05RS28-0-EM02	0	-	-			
H3-TA05RS28-0-EM03	21	0	0.0			
H3-TA05RS28-0-EM04	30	1	3.3			
H3-TA05RS28-0-EM05	4	0	0.0			
Average for Site	10.8	0.2	0.7	2.222	0.667	223.607

SITE 29 (23b-VP-2), 0.11 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA05RS29-0-EM01	1	0	0.0			
H3-TA05RS29-1-EM01	6	0	0.0			
H3-TA05RS29-0-EM02	23	0	0.0			
H3-TA05RS29-0-EM03	11	0	0.0			
H3-TA05RS29-0-EM04	1	0	0.0			
H3-TA05RS29-0-EM05	25	3	12.0			
Average for Site	11.2	0.5	2.0	24.000	2.000	244.949

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 30 (38-VP-1), 28.0 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA08RS30-0-EM01	71	9	12.7			
H3-TA08RS30-0-EM02	64	11	17.2			
H3-TA08RS30-0-EM03	73	17	23.3			
H3-TA08RS30-0-EM04	77	10	13.0			
H3-TA08RS30-0-EM05	79	15	19.0			
H3-TA08RS30-1-EM05	75	11	14.7			
Average for Site	73.2	12.2	16.6	16.590	1.663	24.490

SITE 32 (46-VP-1), 0.5 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H3-TA08RS32-0-EM01	3	0	0.0			
H3-TA08RS32-1-EM01	26	1	3.8			
H3-TA08RS32-0-EM02	22	1	4.5			
H3-TA08RS32-0-EM03	8	0	0.0			
H3-TA08RS32-0-EM04	1	0	0.0			
H3-TA08RS32-0-EM05	11	0	0.0			
Average for Site	11.8	0.3	1.4	4.744	0.889	155.724

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

**SITE 41 (WML-1), 0.007 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Crossover Study)**

Egg Mass ID	Number Metamorphs	Number	%	Var (S ²)	SEM	CV (%)
	Weighed	Abnormal	Abnormal			
H9-TAWLRS41-0-EM01	11	0	0.0			
H9-TAWLRS41-0-EM02	24	0	0.0			
H9-TAWLRS41-0-EM03	32	0	0.0			
H9-TAWLRS41-0-EM04	34	1	2.9			
H9-TAWLRS41-0-EM05	5	0	0.0			
H9-TAWLRS41-1-EM05	27	0	0.0			
Average for Site	22.2	0.2	0.5	1.442	0.490	244.949

**SITE 42 (WML-2), 0.013 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Crossover Study)**

Egg Mass ID	Number Metamorphs	Number	%	Var (S ²)	SEM	CV (%)
	Weighed	Abnormal	Abnormal			
H9-TAWLRS42-0-EM01	10	0	0.0			
H9-TAWLRS42-0-EM02	17	1	5.9			
H9-TAWLRS42-0-EM03	7	0	0.0			
H9-TAWLRS42-0-EM04	9	0	0.0			
H9-TAWLRS42-0-EM05	20	0	0.0			
H9-TAWLRS42-1-EM05	11	1	9.1			
Average for Site	12.3	0.3	2.5	15.976	1.632	160.166

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY FOR FIGURES**

**SITE 43 (WML-3), 0.011 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Spike Study)**

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H9-TAWLRS43-0-EM01	20	0	0.0			
H9-TAWLRS43-0-EM02	32	0	0.0			
H9-TAWLRS43-0-EM03	29	1	3.4			
H9-TAWLRS43-0-EM04	24	0	0.0			
H9-TAWLRS43-0-EM05	14	0	0.0			
H9-TAWLRS43-1-EM05	24	0	0.0			
Average for Site	23.8	0.2	0.6	1.982	0.575	244.949

SITE 41, 42, 43 (WML-1, 2, 3)

Average Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
19.4	0.2	1.3	6.5	1.468	197.685

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 20 (8-VP-1), 14.5 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H2-TA02RS20-0-EM06	35	0.317	0.019	0.023	43.446
H2-TA02RS20-0-EM07	29	0.294	0.027	0.030	55.454
H2-TA02RS20-1-EM07	29	0.355	0.069	0.049	73.837
H2-TA02RS20-0-EM08	19	0.274	0.011	0.024	38.847
H2-TA02RS20-0-EM09	14	0.466	0.034	0.050	39.831
H2-TA02RS20-0-EM10	27	0.279	0.015	0.023	43.312
Average for Site	25.5	0.331	0.005	0.030	21.894

SITE 21 (38-VP-2), 62.0 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H3-TA08RS21-0-EM06	42	0.571	0.048	0.034	38.494
H3-TA08RS21-1-EM06	46	0.379	0.035	0.027	49.151
H3-TA08RS21-0-EM07	54	0.328	0.019	0.019	41.547
H3-TA08RS21-0-EM08	36	0.405	0.062	0.042	61.759
H3-TA08RS21-0-EM09	50	0.340	0.025	0.022	46.210
H3-TA08RS21-0-EM10	50	0.340	0.011	0.015	31.082
Average for Site	46.3	0.394	0.008	0.037	23.191

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 22 (46-VP-5), 2.2 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H3-TA08RS22-0-EM06	63	0.404	0.036	0.024	46.649
H3-TA08RS22-0-EM07	75	0.504	0.025	0.018	31.119
H3-TA08RS22-0-EM08	77	0.394	0.016	0.015	32.333
H3-TA08RS22-0-EM09	67	0.456	0.023	0.019	33.369
H3-TA08RS22-0-EM10	29	0.405	0.025	0.030	39.367
H3-TA08RS22-1-EM10	62	0.373	0.021	0.019	39.081
Average for Site	62.2	0.423	0.002	0.020	11.457

SITE 27 (18-VP-2), 6.05 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H3-TA04RS27-0-EM01	1	0.538	-	-	-
H3-TA04RS27-1-EM01	Egg Mass Necrotic	-	-	-	-
H3-TA04RS27-0-EM02	7	0.407	0.006	0.030	19.802
H3-TA04RS27-0-EM03	2	0.789	0.016	0.090	16.132
H3-TA04RS27-0-EM04	0	-	-	-	-
H3-TA04RS27-0-EM05	2	1.226	0.983	0.701	80.862
Average for Site	2.4	0.740	0.130	0.180	48.758

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 28 (23b-VP-1), 0.19 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs	Mean	Var (S ²)	SEM	CV (%)
	Weighed	Weight (g)			
H3-TA05RS28-0-EM01	8	0.394	0.011	0.037	26.310
H3-TA05RS28-1-EM01	2	0.572	0.058	0.171	42.278
H3-TA05RS28-0-EM02	0	-	-	-	-
H3-TA05RS28-0-EM03	21	0.254	0.004	0.014	25.295
H3-TA05RS28-0-EM04	30	0.289	0.016	0.023	43.430
H3-TA05RS28-0-EM05	4	0.364	0.001	0.018	9.915
Average for Site	10.8	0.375	0.015	0.055	33.064

SITE 29 (23b-VP-2), 0.11 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs	Mean	Var (S ²)	SEM	CV (%)
	Weighed	Weight (g)			
H3-TA05RS29-0-EM01	1	0.628	-	-	-
H3-TA05RS29-1-EM01	6	0.500	0.104	0.131	64.366
H3-TA05RS29-0-EM02	23	0.289	0.006	0.016	25.990
H3-TA05RS29-0-EM03	11	0.365	0.052	0.069	62.437
H3-TA05RS29-0-EM04	1	0.206	-	-	-
H3-TA05RS29-0-EM05	25	0.448	0.038	0.039	43.217
Average for Site	11.2	0.406	0.023	0.062	37.422

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

SITE 30 (38-VP-1), 28.0 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H3-TA08RS30-0-EM01	71	0.493	0.029	0.020	34.290
H3-TA08RS30-0-EM02	64	0.451	0.020	0.018	31.244
H3-TA08RS30-0-EM03	73	0.699	0.053	0.027	32.963
H3-TA08RS30-0-EM04	77	0.777	0.089	0.034	38.484
H3-TA08RS30-0-EM05	79	0.598	0.041	0.023	33.746
H3-TA08RS30-1-EM05	75	0.661	0.061	0.029	37.431
Average for Site	73.2	0.613	0.016	0.051	20.334

SITE 32 (46-VP-1), 0.5 mg/Kg AVERAGE SEDIMENT PCB CONCENTRATION

Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
H3-TA08RS32-0-EM01	3	0.204	0.001	0.021	17.715
H3-TA08RS32-1-EM01	26	0.214	0.008	0.017	41.381
H3-TA08RS32-0-EM02	22	0.332	0.021	0.031	43.258
H3-TA08RS32-0-EM03	8	0.302	0.018	0.047	44.249
H3-TA08RS32-0-EM04	1	0.135	-	-	-
H3-TA08RS32-0-EM05	11	0.304	0.044	0.063	68.887
Average for Site	11.8	0.249	0.006	0.031	30.605

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

**SITE 41 (WML-1), 0.007 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Crossover Study)**

Egg Mass ID	Number Metamorphs		Mean		SEM	CV (%)
	Weighed		Weight (g)	Var (S ²)		
H9-TAWLRS41-0-EM01	11		0.221	0.004	0.019	28.655
H9-TAWLRS41-0-EM02	24		0.257	0.004	0.013	24.297
H9-TAWLRS41-0-EM03	32		0.300	0.015	0.021	40.294
H9-TAWLRS41-0-EM04	34		0.242	0.007	0.014	33.983
H9-TAWLRS41-0-EM05	5		0.341	0.047	0.097	63.821
H9-TAWLRS41-1-EM05	27		0.298	0.006	0.015	26.029
Average for Site	22.2		0.276	0.002	0.018	15.977

**SITE 42 (WML-2), 0.013 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Crossover Study)**

Egg Mass ID	Number Metamorphs		Mean		SEM	CV (%)
	Weighed		Weight (g)	Var (S ²)		
H9-TAWLRS42-0-EM01	10		0.274	0.006	0.024	27.690
H9-TAWLRS42-0-EM02	17		0.252	0.004	0.015	24.180
H9-TAWLRS42-0-EM03	7		0.292	0.006	0.030	27.324
H9-TAWLRS42-0-EM04	9		0.249	0.004	0.021	25.623
H9-TAWLRS42-0-EM05	20		0.294	0.008	0.021	31.228
H9-TAWLRS42-1-EM05	11		0.249	0.014	0.035	47.120
Average for Site	12.3		0.268	0.000	0.009	7.911

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY FOR FIGURES**

**SITE 43 (WML-3), 0.011 mg/Kg SEDIMENT PCB CONCENTRATION
(Data Shared with Spike Study)**

Egg Mass ID	Number Metamorphs	Mean	Var (S ²)	SEM	CV (%)
	Weighed	Weight (g)			
H9-TAWLRS43-0-EM01	20	0.348	0.023	0.034	43.679
H9-TAWLRS43-0-EM02	32	0.264	0.018	0.024	50.924
H9-TAWLRS43-0-EM03	29	0.359	0.019	0.025	38.153
H9-TAWLRS43-0-EM04	24	0.313	0.016	0.026	40.975
H9-TAWLRS43-0-EM05	14	0.422	0.027	0.044	39.066
H9-TAWLRS43-1-EM05	24	0.338	0.019	0.028	40.641
Average for Site	23.8	0.341	0.003	0.021	15.334

SITE 41, 42, 43 (WML-1, 2, 3)

Average Number Metamorphs Weighed	Mean Weight (g)	Var (S ²)	SEM	CV (%)
19.4	0.295	0.002	0.023	13.462

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 20 (8-VP-1), 14.5 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H2-TA02RS20-0-EM06	06/09/00	0.195	
H2-TA02RS20-0-EM06	06/19/00	0.228	
H2-TA02RS20-0-EM06	06/19/00	0.939	eye, skin
H2-TA02RS20-0-EM06	06/19/00	0.257	
H2-TA02RS20-0-EM06	06/19/00	0.274	
H2-TA02RS20-0-EM06	06/19/00	0.291	
H2-TA02RS20-0-EM06	06/19/00	0.314	
H2-TA02RS20-0-EM06	06/19/00	0.269	mouth, facial
H2-TA02RS20-0-EM06	06/20/00	0.160	
H2-TA02RS20-0-EM06	06/21/00	0.306	
H2-TA02RS20-0-EM06	06/27/00	0.211	
H2-TA02RS20-0-EM06	06/27/00	0.267	
H2-TA02RS20-0-EM06	06/27/00	0.291	
H2-TA02RS20-0-EM06	06/27/00	0.172	
H2-TA02RS20-0-EM06	06/27/00	0.222	
H2-TA02RS20-0-EM06	06/27/00	0.210	
H2-TA02RS20-0-EM06	06/27/00	0.258	mouth, facial, eye
H2-TA02RS20-0-EM06	06/27/00	0.276	
H2-TA02RS20-0-EM06	07/03/00	0.384	
H2-TA02RS20-0-EM06	07/03/00	0.158	
H2-TA02RS20-0-EM06	07/03/00	0.259	
H2-TA02RS20-0-EM06	07/05/00	0.345	
H2-TA02RS20-0-EM06	07/05/00	0.273	
H2-TA02RS20-0-EM06	07/05/00	0.357	mouth, facial
H2-TA02RS20-0-EM06	07/06/00	0.320	
H2-TA02RS20-0-EM06	07/06/00	0.436	
H2-TA02RS20-0-EM06	07/06/00	0.394	
H2-TA02RS20-0-EM06	07/06/00	0.382	
H2-TA02RS20-0-EM06	07/10/00	0.363	edema, visceral (gut)
H2-TA02RS20-0-EM06	07/12/00	0.386	
H2-TA02RS20-0-EM06	07/12/00	0.274	
H2-TA02RS20-0-EM06	07/18/00	0.240	
H2-TA02RS20-0-EM06	07/24/00	0.469	
H2-TA02RS20-0-EM06	07/24/00	0.439	edema visceral, skin
H2-TA02RS20-0-EM06	07/27/00	0.482	
H2-TA02RS20-0-EM07	06/09/00	0.148	
H2-TA02RS20-0-EM07	06/09/00	0.740	mouth, forelimb
H2-TA02RS20-0-EM07	06/09/00	0.112	
H2-TA02RS20-0-EM07	06/19/00	0.180	
H2-TA02RS20-0-EM07	06/21/00	0.130	
H2-TA02RS20-0-EM07	06/27/00	0.225	
H2-TA02RS20-0-EM07	06/27/00	0.226	
H2-TA02RS20-0-EM07	06/29/00	0.106	
H2-TA02RS20-0-EM07	07/03/00	0.106	
H2-TA02RS20-0-EM07	07/03/00	0.214	
H2-TA02RS20-0-EM07	07/03/00	0.180	
H2-TA02RS20-0-EM07	07/03/00	0.329	mouth, facial, eye, tail flexure
H2-TA02RS20-0-EM07	07/06/00	0.319	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 20 (8-VP-1), 14.5 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H2-TA02RS20-0-EM07	07/10/00	0.213	
H2-TA02RS20-0-EM07	07/10/00	0.224	
H2-TA02RS20-0-EM07	07/12/00	0.123	
H2-TA02RS20-0-EM07	07/20/00	0.261	
H2-TA02RS20-0-EM07	07/31/00	0.291	
H2-TA02RS20-0-EM07	07/31/00	0.430	
H2-TA02RS20-0-EM07	08/02/00	0.317	edema, mouth, facial, tail flexure
H2-TA02RS20-0-EM07	08/02/00	0.222	
H2-TA02RS20-0-EM07	08/02/00	0.252	
H2-TA02RS20-0-EM07	08/02/00	0.254	
H2-TA02RS20-0-EM07	08/02/00	0.421	
H2-TA02RS20-0-EM07	08/02/00	0.388	
H2-TA02RS20-0-EM07	08/10/00	0.408	
H2-TA02RS20-0-EM07	08/14/00	0.657	
H2-TA02RS20-0-EM07	08/21/00	0.571	
H2-TA02RS20-0-EM07	08/24/00	0.477	mouth, facial
H2-TA02RS20-1-EM07	06/09/00	0.777	
H2-TA02RS20-1-EM07	06/19/00	0.227	
H2-TA02RS20-1-EM07	06/19/00	0.188	
H2-TA02RS20-1-EM07	06/19/00	0.245	
H2-TA02RS20-1-EM07	06/19/00	0.246	
H2-TA02RS20-1-EM07	06/19/00	0.319	
H2-TA02RS20-1-EM07	06/19/00	0.175	
H2-TA02RS20-1-EM07	06/27/00	0.191	
H2-TA02RS20-1-EM07	06/27/00	0.348	
H2-TA02RS20-1-EM07	06/27/00	0.223	
H2-TA02RS20-1-EM07	06/27/00	0.358	
H2-TA02RS20-1-EM07	06/27/00	0.227	
H2-TA02RS20-1-EM07	06/29/00	0.218	
H2-TA02RS20-1-EM07	07/03/00	0.207	
H2-TA02RS20-1-EM07	07/05/00	0.219	
H2-TA02RS20-1-EM07	07/06/00	0.295	
H2-TA02RS20-1-EM07	07/06/00	0.249	
H2-TA02RS20-1-EM07	07/06/00	0.349	
H2-TA02RS20-1-EM07	07/06/00	0.331	
H2-TA02RS20-1-EM07	07/10/00	0.827	eye
H2-TA02RS20-1-EM07	07/10/00	0.607	
H2-TA02RS20-1-EM07	07/12/00	0.339	
H2-TA02RS20-1-EM07	07/12/00	0.317	
H2-TA02RS20-1-EM07	07/18/00	0.321	edema, visceral (gut)
H2-TA02RS20-1-EM07	07/18/00	0.160	edema
H2-TA02RS20-1-EM07	07/24/00		too decomposed or eaten to weigh
H2-TA02RS20-1-EM07	07/24/00		too decomposed or eaten to weigh
H2-TA02RS20-1-EM07	08/10/00	0.279	
H2-TA02RS20-1-EM07	08/11/00	0.288	
H2-TA02RS20-1-EM07	08/23/00	0.325	
H2-TA02RS20-1-EM07	09/11/00	1.436	
H2-TA02RS20-0-EM08	06/06/00	0.170	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 20 (8-VP-1), 14.5 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H2-TA02RS20-0-EM08	06/06/00	0.165	
H2-TA02RS20-0-EM08	06/09/00	0.154	
H2-TA02RS20-0-EM08	06/09/00	0.274	
H2-TA02RS20-0-EM08	06/19/00	0.313	
H2-TA02RS20-0-EM08	06/19/00	0.284	
H2-TA02RS20-0-EM08	06/19/00	0.180	
H2-TA02RS20-0-EM08	06/19/00	0.174	
H2-TA02RS20-0-EM08	06/20/00	0.235	
H2-TA02RS20-0-EM08	06/21/00	0.318	
H2-TA02RS20-0-EM08	06/27/00	0.240	
H2-TA02RS20-0-EM08	06/27/00	0.399	facial, spine flexure
H2-TA02RS20-0-EM08	06/27/00	0.277	
H2-TA02RS20-0-EM08	06/29/00	0.242	
H2-TA02RS20-0-EM08	07/03/00	0.214	
H2-TA02RS20-0-EM08	07/03/00	0.575	
H2-TA02RS20-0-EM08	07/05/00	0.427	eye
H2-TA02RS20-0-EM08	07/06/00	0.349	
H2-TA02RS20-0-EM08	07/18/00	0.224	
H2-TA02RS20-0-EM09	07/05/00	0.377	
H2-TA02RS20-0-EM09	07/10/00	0.300	
H2-TA02RS20-0-EM09	07/10/00	0.392	
H2-TA02RS20-0-EM09	07/18/00	0.240	
H2-TA02RS20-0-EM09	07/24/00	0.522	mouth, facial, axial flexure
H2-TA02RS20-0-EM09	07/27/00	0.463	
H2-TA02RS20-0-EM09	07/27/00	0.301	
H2-TA02RS20-0-EM09	08/02/00	0.505	
H2-TA02RS20-0-EM09	08/14/00	0.840	
H2-TA02RS20-0-EM09	08/31/00	0.303	
H2-TA02RS20-0-EM09	09/01/00	0.301	
H2-TA02RS20-0-EM09	09/14/00	0.759	
H2-TA02RS20-0-EM09	09/18/00	0.649	forelimb digit, skin
H2-TA02RS20-0-EM09	09/25/00	0.568	
H2-TA02RS20-0-EM10	06/01/00	0.124	
H2-TA02RS20-0-EM10	06/09/00	0.192	
H2-TA02RS20-0-EM10	06/19/00	0.130	
H2-TA02RS20-0-EM10	06/19/00	0.213	
H2-TA02RS20-0-EM10	06/19/00	0.298	
H2-TA02RS20-0-EM10	06/20/00	0.155	
H2-TA02RS20-0-EM10	06/27/00	0.149	
H2-TA02RS20-0-EM10	07/05/00	0.199	
H2-TA02RS20-0-EM10	07/05/00	0.226	
H2-TA02RS20-0-EM10	07/06/00	0.282	
H2-TA02RS20-0-EM10	07/06/00	0.269	
H2-TA02RS20-0-EM10	07/10/00	0.234	
H2-TA02RS20-0-EM10	07/10/00	0.390	edema, hindlimb
H2-TA02RS20-0-EM10	07/10/00	0.214	edema, hindlimb
H2-TA02RS20-0-EM10	07/12/00	0.650	
H2-TA02RS20-0-EM10	07/18/00	0.147	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 20 (8-VP-1), 14.5 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H2-TA02RS20-0-EM10	07/19/00	0.303	
H2-TA02RS20-0-EM10	07/19/00	0.232	
H2-TA02RS20-0-EM10	07/27/00	0.378	
H2-TA02RS20-0-EM10	07/31/00	0.368	
H2-TA02RS20-0-EM10	08/02/00	0.276	
H2-TA02RS20-0-EM10	08/02/00	0.288	
H2-TA02RS20-0-EM10	08/02/00	0.241	
H2-TA02RS20-0-EM10	08/07/00	0.371	
H2-TA02RS20-0-EM10	08/10/00	0.286	
H2-TA02RS20-0-EM10	08/11/00	0.373	edema, facial, eye
H2-TA02RS20-0-EM10	08/28/00	0.535	

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PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-0-EM06	06/22/00	0.616	
H3-TA08RS21-0-EM06	06/22/00	0.337	
H3-TA08RS21-0-EM06	06/26/00	0.616	
H3-TA08RS21-0-EM06	06/26/00	0.459	
H3-TA08RS21-0-EM06	06/26/00	0.520	facial, eye, tail
H3-TA08RS21-0-EM06	06/28/00	0.341	
H3-TA08RS21-0-EM06	06/28/00	0.660	
H3-TA08RS21-0-EM06	06/29/00	0.819	
H3-TA08RS21-0-EM06	06/30/00	0.879	
H3-TA08RS21-0-EM06	06/30/00	0.786	
H3-TA08RS21-0-EM06	06/30/00	0.833	
H3-TA08RS21-0-EM06	06/30/00	1.013	
H3-TA08RS21-0-EM06	06/30/00	0.680	
H3-TA08RS21-0-EM06	06/30/00	0.801	
H3-TA08RS21-0-EM06	06/30/00	0.778	
H3-TA08RS21-0-EM06	06/30/00	0.669	
H3-TA08RS21-0-EM06	06/30/00	0.866	
H3-TA08RS21-0-EM06	07/03/00	0.526	
H3-TA08RS21-0-EM06	07/03/00	0.371	
H3-TA08RS21-0-EM06	07/03/00	0.510	forelimb digit, skin, tail
H3-TA08RS21-0-EM06	07/03/00	0.527	
H3-TA08RS21-0-EM06	07/05/00	0.324	
H3-TA08RS21-0-EM06	07/05/00	0.488	facial, eye, skin
H3-TA08RS21-0-EM06	07/05/00	0.597	
H3-TA08RS21-0-EM06	07/05/00	0.424	
H3-TA08RS21-0-EM06	07/06/00	0.349	
H3-TA08RS21-0-EM06	07/06/00	0.411	
H3-TA08RS21-0-EM06	07/10/00	0.413	
H3-TA08RS21-0-EM06	07/10/00	0.687	
H3-TA08RS21-0-EM06	07/10/00	0.324	
H3-TA08RS21-0-EM06	07/10/00	0.429	edema
H3-TA08RS21-0-EM06	07/10/00	0.407	edema, hindlimb, tail visceral
H3-TA08RS21-0-EM06	07/12/00	0.442	
H3-TA08RS21-0-EM06	07/17/00	0.554	edema
H3-TA08RS21-0-EM06	07/17/00	0.412	
H3-TA08RS21-0-EM06	07/20/00	0.651	
H3-TA08RS21-0-EM06	07/27/00	0.180	
H3-TA08RS21-0-EM06	07/27/00	0.234	
H3-TA08RS21-0-EM06	07/27/00	0.559	
H3-TA08RS21-0-EM06	07/27/00	0.520	
H3-TA08RS21-0-EM06	08/14/00	0.688	
H3-TA08RS21-0-EM06	09/07/00	1.265	
H3-TA08RS21-1-EM06	06/05/00	0.165	
H3-TA08RS21-1-EM06	06/05/00	0.133	
H3-TA08RS21-1-EM06	06/06/00	0.153	
H3-TA08RS21-1-EM06	06/19/00	0.289	
H3-TA08RS21-1-EM06	06/26/00	0.257	
H3-TA08RS21-1-EM06	06/28/00	0.301	
H3-TA08RS21-1-EM06	07/03/00	0.298	facial, mouth

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VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-1-EM06	07/03/00	0.393	
H3-TA08RS21-1-EM06	07/03/00	0.230	
H3-TA08RS21-1-EM06	07/03/00	0.411	
H3-TA08RS21-1-EM06	07/03/00	0.225	
H3-TA08RS21-1-EM06	07/03/00	0.315	
H3-TA08RS21-1-EM06	07/05/00	0.319	
H3-TA08RS21-1-EM06	07/05/00	0.285	
H3-TA08RS21-1-EM06	07/06/00	0.308	edema
H3-TA08RS21-1-EM06	07/06/00	0.479	
H3-TA08RS21-1-EM06	07/10/00	0.269	
H3-TA08RS21-1-EM06	07/10/00	0.216	
H3-TA08RS21-1-EM06	07/10/00	0.401	
H3-TA08RS21-1-EM06	07/10/00	0.513	
H3-TA08RS21-1-EM06	07/10/00	0.390	
H3-TA08RS21-1-EM06	07/10/00	0.260	
H3-TA08RS21-1-EM06	07/10/00	0.268	
H3-TA08RS21-1-EM06	07/10/00	0.313	
H3-TA08RS21-1-EM06	07/17/00	0.253	
H3-TA08RS21-1-EM06	07/17/00	0.244	
H3-TA08RS21-1-EM06	07/17/00	0.341	
H3-TA08RS21-1-EM06	07/19/00	0.369	
H3-TA08RS21-1-EM06	07/20/00	0.409	
H3-TA08RS21-1-EM06	07/24/00	0.232	
H3-TA08RS21-1-EM06	07/24/00	0.188	
H3-TA08RS21-1-EM06	07/27/00	0.275	eye (lens)
H3-TA08RS21-1-EM06	08/02/00	0.748	
H3-TA08RS21-1-EM06	08/04/00	0.386	
H3-TA08RS21-1-EM06	08/09/00		too decomposed or eaten to weigh
H3-TA08RS21-1-EM06	08/09/00		too decomposed or eaten to weigh
H3-TA08RS21-1-EM06	08/10/00	0.225	
H3-TA08RS21-1-EM06	08/21/00	0.248	
H3-TA08RS21-1-EM06	09/07/00	0.477	
H3-TA08RS21-1-EM06	09/07/00	0.490	
H3-TA08RS21-1-EM06	09/07/00	0.570	
H3-TA08RS21-1-EM06	09/07/00	0.425	
H3-TA08RS21-1-EM06	09/07/00	0.730	facial, head, mouth
H3-TA08RS21-1-EM06	09/11/00	0.872	
H3-TA08RS21-1-EM06	09/12/00		too decomposed or eaten to weigh
H3-TA08RS21-1-EM06	09/14/00	0.905	edema, eye (lens)
H3-TA08RS21-1-EM06	09/18/00	0.453	
H3-TA08RS21-1-EM06	09/18/00	0.764	
H3-TA08RS21-1-EM06	09/21/00	0.622	facial
H3-TA08RS21-0-EM07	06/06/00	0.190	
H3-TA08RS21-0-EM07	06/19/00	0.284	
H3-TA08RS21-0-EM07	06/26/00	0.246	
H3-TA08RS21-0-EM07	06/26/00	0.174	
H3-TA08RS21-0-EM07	06/26/00	0.192	
H3-TA08RS21-0-EM07	06/28/00	0.281	
H3-TA08RS21-0-EM07	06/29/00	0.360	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-0-EM07	07/03/00	0.306	
H3-TA08RS21-0-EM07	07/05/00	0.249	
H3-TA08RS21-0-EM07	07/05/00	0.458	
H3-TA08RS21-0-EM07	07/06/00	0.364	facial, head, mouth
H3-TA08RS21-0-EM07	07/06/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM07	07/06/00	0.179	
H3-TA08RS21-0-EM07	07/06/00	0.263	
H3-TA08RS21-0-EM07	07/06/00	0.276	
H3-TA08RS21-0-EM07	07/10/00	0.317	
H3-TA08RS21-0-EM07	07/10/00	0.284	
H3-TA08RS21-0-EM07	07/10/00	0.233	
H3-TA08RS21-0-EM07	07/10/00	0.292	
H3-TA08RS21-0-EM07	07/10/00	0.222	
H3-TA08RS21-0-EM07	07/10/00	0.366	hindlimb
H3-TA08RS21-0-EM07	07/12/00	0.347	
H3-TA08RS21-0-EM07	07/12/00	0.213	
H3-TA08RS21-0-EM07	07/12/00	0.244	facial, head, mouth
H3-TA08RS21-0-EM07	07/12/00	0.174	
H3-TA08RS21-0-EM07	07/12/00	0.198	
H3-TA08RS21-0-EM07	07/24/00	0.322	facial, eye (mal-position, spine)
H3-TA08RS21-0-EM07	07/24/00	0.395	
H3-TA08RS21-0-EM07	07/27/00	0.541	
H3-TA08RS21-0-EM07	07/27/00	0.400	
H3-TA08RS21-0-EM07	07/27/00	0.588	
H3-TA08RS21-0-EM07	07/27/00	0.441	
H3-TA08RS21-0-EM07	07/31/00	0.172	
H3-TA08RS21-0-EM07	07/31/00	0.272	
H3-TA08RS21-0-EM07	07/31/00	0.273	
H3-TA08RS21-0-EM07	07/31/00	0.319	
H3-TA08RS21-0-EM07	07/31/00	0.222	
H3-TA08RS21-0-EM07	08/02/00	0.457	eye (lens), skin
H3-TA08RS21-0-EM07	08/02/00	0.342	
H3-TA08RS21-0-EM07	08/02/00	0.237	
H3-TA08RS21-0-EM07	08/02/00	0.338	
H3-TA08RS21-0-EM07	08/04/00	0.231	
H3-TA08RS21-0-EM07	08/04/00	0.411	facial, hindlimb
H3-TA08RS21-0-EM07	08/10/00	0.778	
H3-TA08RS21-0-EM07	08/14/00	0.569	
H3-TA08RS21-0-EM07	08/16/00	0.197	
H3-TA08RS21-0-EM07	08/16/00	0.210	
H3-TA08RS21-0-EM07	08/16/00	0.264	
H3-TA08RS21-0-EM07	08/16/00	0.366	
H3-TA08RS21-0-EM07	08/16/00	0.447	
H3-TA08RS21-0-EM07	08/23/00	0.774	facial, forelimb
H3-TA08RS21-0-EM07	08/28/00	0.272	forelimb digit
H3-TA08RS21-0-EM07	08/28/00	0.267	
H3-TA08RS21-0-EM07	09/20/00	0.500	
H3-TA08RS21-0-EM07	09/25/00	0.413	edema, facial
H3-TA08RS21-0-EM08	06/22/00	0.286	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-0-EM08	07/05/00	0.286	
H3-TA08RS21-0-EM08	07/05/00	0.252	
H3-TA08RS21-0-EM08	07/10/00	0.287	facial, eye
H3-TA08RS21-0-EM08	07/10/00	0.291	
H3-TA08RS21-0-EM08	07/10/00	0.226	
H3-TA08RS21-0-EM08	07/10/00	0.225	
H3-TA08RS21-0-EM08	07/10/00	0.289	
H3-TA08RS21-0-EM08	07/10/00	0.210	
H3-TA08RS21-0-EM08	07/12/00	0.297	
H3-TA08RS21-0-EM08	07/17/00	0.215	
H3-TA08RS21-0-EM08	07/17/00	0.236	
H3-TA08RS21-0-EM08	07/19/00	0.238	
H3-TA08RS21-0-EM08	07/27/00	0.274	
H3-TA08RS21-0-EM08	07/31/00	0.315	
H3-TA08RS21-0-EM08	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM08	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM08	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM08	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM08	08/02/00	0.147	
H3-TA08RS21-0-EM08	08/04/00	0.340	
H3-TA08RS21-0-EM08	08/09/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM08	08/14/00	0.304	
H3-TA08RS21-0-EM08	08/14/00	0.282	head, eye
H3-TA08RS21-0-EM08	08/14/00	0.325	
H3-TA08RS21-0-EM08	08/16/00	0.378	
H3-TA08RS21-0-EM08	08/17/00	0.219	
H3-TA08RS21-0-EM08	08/17/00	0.599	
H3-TA08RS21-0-EM08	08/23/00	0.244	head, eye
H3-TA08RS21-0-EM08	08/28/00	0.372	eye, forelimb
H3-TA08RS21-0-EM08	09/07/00	0.764	
H3-TA08RS21-0-EM08	09/11/00	0.516	
H3-TA08RS21-0-EM08	09/11/00	0.660	
H3-TA08RS21-0-EM08	09/11/00	0.566	
H3-TA08RS21-0-EM08	09/13/00	0.665	
H3-TA08RS21-0-EM08	09/15/00	1.260	facial, eye
H3-TA08RS21-0-EM08	09/19/00	0.658	
H3-TA08RS21-0-EM08	09/29/00	1.145	
H3-TA08RS21-0-EM08	10/03/00	0.490	
H3-TA08RS21-0-EM08	10/09/00	0.396	facial, mouth, tail
H3-TA08RS21-0-EM08	10/16/00	0.309	
H3-TA08RS21-0-EM09	06/06/00	0.161	
H3-TA08RS21-0-EM09	06/07/00	0.157	
H3-TA08RS21-0-EM09	06/19/00	0.282	
H3-TA08RS21-0-EM09	06/19/00	0.291	
H3-TA08RS21-0-EM09	06/19/00	0.324	
H3-TA08RS21-0-EM09	06/22/00	0.267	
H3-TA08RS21-0-EM09	06/22/00	0.312	
H3-TA08RS21-0-EM09	06/26/00	0.236	edema
H3-TA08RS21-0-EM09	06/28/00	0.297	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-0-EM09	06/28/00	0.225	
H3-TA08RS21-0-EM09	06/28/00	0.233	edema, facial, growth (abdomen)
H3-TA08RS21-0-EM09	06/29/00	0.354	
H3-TA08RS21-0-EM09	06/29/00	0.252	
H3-TA08RS21-0-EM09	07/03/00	0.303	facial, mouth
H3-TA08RS21-0-EM09	07/05/00	0.258	
H3-TA08RS21-0-EM09	07/05/00	0.275	
H3-TA08RS21-0-EM09	07/05/00	0.343	
H3-TA08RS21-0-EM09	07/06/00	0.215	tail, spine flexure
H3-TA08RS21-0-EM09	07/10/00	0.259	eye (lens), skin
H3-TA08RS21-0-EM09	07/10/00	0.186	
H3-TA08RS21-0-EM09	07/10/00	0.253	
H3-TA08RS21-0-EM09	07/10/00	0.220	
H3-TA08RS21-0-EM09	07/10/00	0.246	
H3-TA08RS21-0-EM09	07/10/00	0.430	facial, eye (mis-shape)
H3-TA08RS21-0-EM09	07/10/00	0.338	
H3-TA08RS21-0-EM09	07/10/00	0.190	
H3-TA08RS21-0-EM09	07/10/00	0.374	
H3-TA08RS21-0-EM09	07/10/00	0.331	facial, spine flexure
H3-TA08RS21-0-EM09	07/10/00	0.285	
H3-TA08RS21-0-EM09	07/10/00	0.327	facial, eye
H3-TA08RS21-0-EM09	07/10/00	0.416	
H3-TA08RS21-0-EM09	07/10/00	0.546	
H3-TA08RS21-0-EM09	07/12/00	0.343	
H3-TA08RS21-0-EM09	07/12/00	0.397	mouth
H3-TA08RS21-0-EM09	07/12/00	0.483	facial, mouth
H3-TA08RS21-0-EM09	07/12/00	0.214	
H3-TA08RS21-0-EM09	07/12/00	0.318	
H3-TA08RS21-0-EM09	07/12/00	0.345	
H3-TA08RS21-0-EM09	07/12/00	0.279	
H3-TA08RS21-0-EM09	07/17/00	0.275	edema
H3-TA08RS21-0-EM09	07/19/00	0.301	
H3-TA08RS21-0-EM09	07/27/00	0.292	
H3-TA08RS21-0-EM09	07/31/00	0.211	
H3-TA08RS21-0-EM09	07/31/00	0.925	
H3-TA08RS21-0-EM09	08/04/00	0.506	hindlimb
H3-TA08RS21-0-EM09	08/09/00	0.540	
H3-TA08RS21-0-EM09	08/09/00	0.295	
H3-TA08RS21-0-EM09	08/09/00	0.510	hindlimb digits
H3-TA08RS21-0-EM09	08/10/00	0.707	
H3-TA08RS21-0-EM09	08/10/00	0.858	
H3-TA08RS21-0-EM10	06/13/00	0.257	
H3-TA08RS21-0-EM10	06/13/00	0.223	
H3-TA08RS21-0-EM10	06/13/00	0.213	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2), 62.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21-0-EM10	06/15/00	0.264	facial, mouth
H3-TA08RS21-0-EM10	06/19/00	0.256	eye (lens)
H3-TA08RS21-0-EM10	06/22/00	0.301	
H3-TA08RS21-0-EM10	06/22/00	0.376	
H3-TA08RS21-0-EM10	06/22/00	0.488	
H3-TA08RS21-0-EM10	06/22/00	0.295	
H3-TA08RS21-0-EM10	06/22/00	0.250	
H3-TA08RS21-0-EM10	06/28/00	0.300	eye, hindlimb
H3-TA08RS21-0-EM10	06/28/00	0.369	
H3-TA08RS21-0-EM10	06/28/00	0.229	
H3-TA08RS21-0-EM10	06/28/00	0.274	
H3-TA08RS21-0-EM10	06/29/00	0.329	
H3-TA08RS21-0-EM10	07/03/00	0.283	
H3-TA08RS21-0-EM10	07/03/00	0.333	
H3-TA08RS21-0-EM10	07/05/00	0.221	
H3-TA08RS21-0-EM10	07/06/00	0.496	eye
H3-TA08RS21-0-EM10	07/06/00	0.447	
H3-TA08RS21-0-EM10	07/06/00	0.233	
H3-TA08RS21-0-EM10	07/10/00	0.472	
H3-TA08RS21-0-EM10	07/10/00	0.430	
H3-TA08RS21-0-EM10	07/10/00	0.316	
H3-TA08RS21-0-EM10	07/10/00	0.348	
H3-TA08RS21-0-EM10	07/10/00	0.350	
H3-TA08RS21-0-EM10	07/12/00	0.324	
H3-TA08RS21-0-EM10	07/12/00	0.295	
H3-TA08RS21-0-EM10	07/17/00	0.270	
H3-TA08RS21-0-EM10	07/17/00	0.217	
H3-TA08RS21-0-EM10	07/19/00	0.235	
H3-TA08RS21-0-EM10	07/19/00	0.637	facial, mouth
H3-TA08RS21-0-EM10	07/20/00	0.314	
H3-TA08RS21-0-EM10	07/20/00	0.236	
H3-TA08RS21-0-EM10	07/20/00	0.373	hindlimb
H3-TA08RS21-0-EM10	07/20/00	0.320	
H3-TA08RS21-0-EM10	07/24/00	0.360	
H3-TA08RS21-0-EM10	07/24/00	0.612	
H3-TA08RS21-0-EM10	07/24/00	0.518	
H3-TA08RS21-0-EM10	07/24/00	0.362	
H3-TA08RS21-0-EM10	07/24/00	0.337	
H3-TA08RS21-0-EM10	07/24/00	0.444	mouth
H3-TA08RS21-0-EM10	07/27/00	0.256	
H3-TA08RS21-0-EM10	07/27/00	0.253	
H3-TA08RS21-0-EM10	07/27/00	0.265	
H3-TA08RS21-0-EM10	07/27/00	0.401	
H3-TA08RS21-0-EM10	07/27/00	0.323	
H3-TA08RS21-0-EM10	07/27/00	0.589	
H3-TA08RS21-0-EM10	07/31/00	0.275	
H3-TA08RS21-0-EM10	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21-0-EM10	08/04/00	0.446	
H3-TA08RS21-0-EM10	08/09/00		too decomposed or eaten to weigh

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM06	06/02/00	0.144	
H3-TA08RS22-0-EM06	06/06/00	0.236	
H3-TA08RS22-0-EM06	06/06/00	0.268	
H3-TA08RS22-0-EM06	06/07/00	0.394	
H3-TA08RS22-0-EM06	06/09/00	0.355	
H3-TA08RS22-0-EM06	06/09/00	0.315	
H3-TA08RS22-0-EM06	06/09/00	0.449	
H3-TA08RS22-0-EM06	06/09/00	0.148	
H3-TA08RS22-0-EM06	06/09/00	0.121	
H3-TA08RS22-0-EM06	06/09/00	0.259	
H3-TA08RS22-0-EM06	06/09/00	0.542	
H3-TA08RS22-0-EM06	06/12/00	0.260	
H3-TA08RS22-0-EM06	06/12/00	0.236	
H3-TA08RS22-0-EM06	06/12/00	0.268	
H3-TA08RS22-0-EM06	06/12/00	0.279	mouth
H3-TA08RS22-0-EM06	06/12/00	0.479	
H3-TA08RS22-0-EM06	06/12/00	0.512	
H3-TA08RS22-0-EM06	06/12/00	0.374	
H3-TA08RS22-0-EM06	06/12/00	0.294	
H3-TA08RS22-0-EM06	06/12/00		too decomposed or eaten to weigh
H3-TA08RS22-0-EM06	06/13/00	0.556	
H3-TA08RS22-0-EM06	06/13/00	0.559	
H3-TA08RS22-0-EM06	06/13/00	0.610	
H3-TA08RS22-0-EM06	06/13/00	0.000	
H3-TA08RS22-0-EM06	06/13/00	0.182	
H3-TA08RS22-0-EM06	06/15/00	0.522	
H3-TA08RS22-0-EM06	06/15/00	0.784	
H3-TA08RS22-0-EM06	06/16/00	0.393	
H3-TA08RS22-0-EM06	06/19/00	0.813	
H3-TA08RS22-0-EM06	06/19/00	0.720	
H3-TA08RS22-0-EM06	06/19/00	0.346	
H3-TA08RS22-0-EM06	06/19/00	0.420	
H3-TA08RS22-0-EM06	06/19/00	0.306	
H3-TA08RS22-0-EM06	06/19/00	0.185	
H3-TA08RS22-0-EM06	06/19/00	0.217	
H3-TA08RS22-0-EM06	06/19/00	0.441	
H3-TA08RS22-0-EM06	06/19/00	0.547	
H3-TA08RS22-0-EM06	06/20/00	0.580	
H3-TA08RS22-0-EM06	06/20/00	0.257	
H3-TA08RS22-0-EM06	06/20/00	0.408	
H3-TA08RS22-0-EM06	06/20/00	0.266	
H3-TA08RS22-0-EM06	06/20/00	0.157	
H3-TA08RS22-0-EM06	06/22/00	0.467	
H3-TA08RS22-0-EM06	06/22/00	0.343	
H3-TA08RS22-0-EM06	06/23/00	0.452	
H3-TA08RS22-0-EM06	06/23/00	0.428	
H3-TA08RS22-0-EM06	06/26/00	0.454	
H3-TA08RS22-0-EM06	06/26/00	0.321	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM06	06/26/00	0.302	
H3-TA08RS22-0-EM06	06/26/00	0.465	
H3-TA08RS22-0-EM06	06/26/00	0.363	
H3-TA08RS22-0-EM06	06/27/00	0.534	facial, mouth
H3-TA08RS22-0-EM06	06/27/00	1.111	
H3-TA08RS22-0-EM06	06/29/00	0.513	
H3-TA08RS22-0-EM06	06/29/00	0.405	
H3-TA08RS22-0-EM06	06/29/00	0.637	
H3-TA08RS22-0-EM06	06/30/00	0.479	
H3-TA08RS22-0-EM06	06/30/00	0.637	
H3-TA08RS22-0-EM06	07/03/00	0.474	
H3-TA08RS22-0-EM06	07/06/00	0.538	
H3-TA08RS22-0-EM06	07/06/00	0.566	
H3-TA08RS22-0-EM06	07/10/00	0.308	
H3-TA08RS22-0-EM06	07/17/00	0.197	forelimb digits, hindlimb flexure
H3-TA08RS22-0-EM06	07/27/00	0.264	
H3-TA08RS22-0-EM07	06/06/00	0.260	
H3-TA08RS22-0-EM07	06/12/00	0.348	
H3-TA08RS22-0-EM07	06/12/00	0.532	
H3-TA08RS22-0-EM07	06/13/00	0.515	
H3-TA08RS22-0-EM07	06/13/00	0.679	
H3-TA08RS22-0-EM07	06/13/00	0.448	
H3-TA08RS22-0-EM07	06/13/00	0.338	
H3-TA08RS22-0-EM07	06/13/00	0.421	
H3-TA08RS22-0-EM07	06/15/00	0.423	
H3-TA08RS22-0-EM07	06/15/00	0.559	
H3-TA08RS22-0-EM07	06/15/00	0.481	
H3-TA08RS22-0-EM07	06/16/00	0.701	
H3-TA08RS22-0-EM07	06/19/00	0.474	
H3-TA08RS22-0-EM07	06/19/00	0.428	
H3-TA08RS22-0-EM07	06/19/00	0.411	
H3-TA08RS22-0-EM07	06/19/00	0.304	
H3-TA08RS22-0-EM07	06/19/00	0.306	
H3-TA08RS22-0-EM07	06/19/00	0.527	
H3-TA08RS22-0-EM07	06/19/00	0.412	
H3-TA08RS22-0-EM07	06/19/00	0.475	
H3-TA08RS22-0-EM07	06/19/00	0.623	
H3-TA08RS22-0-EM07	06/19/00	0.696	
H3-TA08RS22-0-EM07	06/20/00	0.407	
H3-TA08RS22-0-EM07	06/20/00	0.377	
H3-TA08RS22-0-EM07	06/20/00	0.608	
H3-TA08RS22-0-EM07	06/21/00	0.437	facial, eye
H3-TA08RS22-0-EM07	06/21/00	0.486	
H3-TA08RS22-0-EM07	06/22/00	0.397	
H3-TA08RS22-0-EM07	06/22/00	0.262	
H3-TA08RS22-0-EM07	06/23/00	0.402	
H3-TA08RS22-0-EM07	06/26/00	0.255	
H3-TA08RS22-0-EM07	06/26/00	0.532	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM07	06/26/00	0.501	
H3-TA08RS22-0-EM07	06/26/00	0.464	
H3-TA08RS22-0-EM07	06/26/00	0.368	
H3-TA08RS22-0-EM07	06/26/00	0.306	
H3-TA08RS22-0-EM07	06/26/00	0.454	
H3-TA08RS22-0-EM07	06/26/00	0.632	
H3-TA08RS22-0-EM07	06/27/00	0.488	
H3-TA08RS22-0-EM07	06/29/00	0.367	
H3-TA08RS22-0-EM07	06/29/00	0.370	
H3-TA08RS22-0-EM07	06/29/00	0.626	
H3-TA08RS22-0-EM07	06/29/00	0.911	
H3-TA08RS22-0-EM07	06/29/00	0.501	
H3-TA08RS22-0-EM07	06/30/00	0.964	
H3-TA08RS22-0-EM07	06/30/00	0.690	
H3-TA08RS22-0-EM07	07/03/00	0.491	
H3-TA08RS22-0-EM07	07/03/00	0.805	
H3-TA08RS22-0-EM07	07/03/00	0.557	
H3-TA08RS22-0-EM07	07/03/00	0.375	
H3-TA08RS22-0-EM07	07/03/00	0.259	
H3-TA08RS22-0-EM07	07/03/00	1.013	
H3-TA08RS22-0-EM07	07/05/00	0.498	
H3-TA08RS22-0-EM07	07/05/00	0.492	
H3-TA08RS22-0-EM07	07/05/00	0.703	
H3-TA08RS22-0-EM07	07/05/00	0.439	
H3-TA08RS22-0-EM07	07/05/00	0.428	
H3-TA08RS22-0-EM07	07/05/00	0.489	
H3-TA08RS22-0-EM07	07/05/00	0.299	
H3-TA08RS22-0-EM07	07/06/00	0.529	
H3-TA08RS22-0-EM07	07/06/00	0.604	
H3-TA08RS22-0-EM07	07/06/00	0.654	
H3-TA08RS22-0-EM07	07/10/00	0.422	
H3-TA08RS22-0-EM07	07/10/00	0.729	spine flexure
H3-TA08RS22-0-EM07	07/10/00	0.426	
H3-TA08RS22-0-EM07	07/10/00	0.602	
H3-TA08RS22-0-EM07	07/12/00	0.644	
H3-TA08RS22-0-EM07	07/14/00	0.492	
H3-TA08RS22-0-EM07	07/14/00	0.418	
H3-TA08RS22-0-EM07	07/17/00	0.558	
H3-TA08RS22-0-EM07	07/17/00	0.447	
H3-TA08RS22-0-EM07	07/18/00	0.389	
H3-TA08RS22-0-EM07	07/21/00	0.576	
H3-TA08RS22-0-EM07	07/27/00	0.593	
H3-TA08RS22-0-EM07	07/27/00	0.733	
H3-TA08RS22-0-EM08	06/06/00	0.229	
H3-TA08RS22-0-EM08	06/12/00	0.193	
H3-TA08RS22-0-EM08	06/12/00	0.127	
H3-TA08RS22-0-EM08	06/12/00		too decomposed or eaten to weigh
H3-TA08RS22-0-EM08	06/13/00	0.236	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM08	06/16/00	0.589	
H3-TA08RS22-0-EM08	06/16/00	0.397	
H3-TA08RS22-0-EM08	06/16/00	0.344	
H3-TA08RS22-0-EM08	06/19/00	0.465	
H3-TA08RS22-0-EM08	06/19/00	0.663	
H3-TA08RS22-0-EM08	06/19/00	0.490	
H3-TA08RS22-0-EM08	06/19/00	0.556	
H3-TA08RS22-0-EM08	06/19/00	0.348	
H3-TA08RS22-0-EM08	06/19/00	0.440	
H3-TA08RS22-0-EM08	06/19/00	0.659	
H3-TA08RS22-0-EM08	06/19/00	0.555	
H3-TA08RS22-0-EM08	06/19/00	0.491	
H3-TA08RS22-0-EM08	06/20/00	0.325	
H3-TA08RS22-0-EM08	06/20/00	0.260	
H3-TA08RS22-0-EM08	06/20/00	0.195	
H3-TA08RS22-0-EM08	06/20/00	0.333	
H3-TA08RS22-0-EM08	06/20/00	0.220	
H3-TA08RS22-0-EM08	06/20/00	0.281	
H3-TA08RS22-0-EM08	06/20/00	0.355	
H3-TA08RS22-0-EM08	06/20/00	0.555	
H3-TA08RS22-0-EM08	06/20/00	0.265	
H3-TA08RS22-0-EM08	06/20/00	0.324	
H3-TA08RS22-0-EM08	06/21/00	0.311	
H3-TA08RS22-0-EM08	06/21/00	0.289	
H3-TA08RS22-0-EM08	06/21/00	0.312	
H3-TA08RS22-0-EM08	06/21/00		too decomposed or eaten to weigh
H3-TA08RS22-0-EM08	06/22/00	0.365	
H3-TA08RS22-0-EM08	06/22/00	0.287	
H3-TA08RS22-0-EM08	06/22/00	0.386	
H3-TA08RS22-0-EM08	06/22/00	0.412	
H3-TA08RS22-0-EM08	06/22/00	0.311	
H3-TA08RS22-0-EM08	06/22/00	0.347	
H3-TA08RS22-0-EM08	06/22/00	0.414	
H3-TA08RS22-0-EM08	06/23/00	0.416	
H3-TA08RS22-0-EM08	06/26/00	0.297	
H3-TA08RS22-0-EM08	06/26/00	0.355	
H3-TA08RS22-0-EM08	06/26/00	0.350	
H3-TA08RS22-0-EM08	06/26/00	0.357	
H3-TA08RS22-0-EM08	06/26/00	0.339	
H3-TA08RS22-0-EM08	06/26/00	0.397	
H3-TA08RS22-0-EM08	06/26/00	0.360	
H3-TA08RS22-0-EM08	06/26/00	0.687	
H3-TA08RS22-0-EM08	06/26/00	0.309	
H3-TA08RS22-0-EM08	06/26/00	0.193	
H3-TA08RS22-0-EM08	06/26/00	0.220	
H3-TA08RS22-0-EM08	06/26/00	0.458	
H3-TA08RS22-0-EM08	06/26/00	0.376	
H3-TA08RS22-0-EM08	06/27/00	0.347	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM08	06/27/00	0.630	
H3-TA08RS22-0-EM08	06/27/00	0.338	
H3-TA08RS22-0-EM08	06/27/00	0.349	
H3-TA08RS22-0-EM08	06/29/00	0.428	
H3-TA08RS22-0-EM08	06/29/00	0.374	
H3-TA08RS22-0-EM08	06/30/00	0.455	
H3-TA08RS22-0-EM08	06/30/00		too decomposed or eaten to weigh
H3-TA08RS22-0-EM08	06/30/00	0.683	
H3-TA08RS22-0-EM08	07/03/00	0.444	
H3-TA08RS22-0-EM08	07/03/00	0.343	
H3-TA08RS22-0-EM08	07/03/00	0.507	
H3-TA08RS22-0-EM08	07/03/00	0.513	
H3-TA08RS22-0-EM08	07/03/00	0.450	
H3-TA08RS22-0-EM08	07/03/00	0.416	
H3-TA08RS22-0-EM08	07/05/00	0.711	
H3-TA08RS22-0-EM08	07/05/00	0.502	
H3-TA08RS22-0-EM08	07/10/00	0.602	
H3-TA08RS22-0-EM08	07/10/00	0.389	
H3-TA08RS22-0-EM08	07/10/00	0.239	
H3-TA08RS22-0-EM08	07/10/00	0.248	
H3-TA08RS22-0-EM08	07/10/00	0.364	
H3-TA08RS22-0-EM08	07/10/00	0.506	
H3-TA08RS22-0-EM08	07/10/00	0.399	
H3-TA08RS22-0-EM08	07/12/00	0.421	
H3-TA08RS22-0-EM08	07/12/00	0.346	eye
H3-TA08RS22-0-EM08	07/14/00	0.393	
H3-TA08RS22-0-EM08	07/14/00	0.487	
H3-TA08RS22-0-EM08	07/14/00		too decomposed or eaten to weigh
H3-TA08RS22-0-EM09	06/13/00	0.338	
H3-TA08RS22-0-EM09	06/13/00	0.455	
H3-TA08RS22-0-EM09	06/13/00	0.450	
H3-TA08RS22-0-EM09	06/15/00	0.520	
H3-TA08RS22-0-EM09	06/19/00	0.495	
H3-TA08RS22-0-EM09	06/19/00	0.413	
H3-TA08RS22-0-EM09	06/19/00	0.433	
H3-TA08RS22-0-EM09	06/19/00	0.360	
H3-TA08RS22-0-EM09	06/19/00	0.280	
H3-TA08RS22-0-EM09	06/19/00	0.324	
H3-TA08RS22-0-EM09	06/19/00	0.322	
H3-TA08RS22-0-EM09	06/19/00	0.375	
H3-TA08RS22-0-EM09	06/19/00	0.281	
H3-TA08RS22-0-EM09	06/19/00	0.270	
H3-TA08RS22-0-EM09	06/19/00	0.311	
H3-TA08RS22-0-EM09	06/19/00	0.436	
H3-TA08RS22-0-EM09	06/19/00	0.691	
H3-TA08RS22-0-EM09	06/19/00	0.732	
H3-TA08RS22-0-EM09	06/20/00	0.331	
H3-TA08RS22-0-EM09	06/20/00	0.326	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM09	06/20/00	0.293	
H3-TA08RS22-0-EM09	06/20/00	0.363	
H3-TA08RS22-0-EM09	06/20/00	0.085	
H3-TA08RS22-0-EM09	06/22/00	0.567	facial, eye (position)
H3-TA08RS22-0-EM09	06/22/00	0.383	
H3-TA08RS22-0-EM09	06/22/00	0.440	
H3-TA08RS22-0-EM09	06/23/00	0.384	
H3-TA08RS22-0-EM09	06/23/00	0.397	
H3-TA08RS22-0-EM09	06/23/00	0.401	
H3-TA08RS22-0-EM09	06/23/00	0.324	
H3-TA08RS22-0-EM09	06/26/00	0.475	
H3-TA08RS22-0-EM09	06/26/00	0.493	
H3-TA08RS22-0-EM09	06/26/00	0.487	
H3-TA08RS22-0-EM09	06/26/00	0.621	
H3-TA08RS22-0-EM09	06/26/00	0.288	
H3-TA08RS22-0-EM09	06/26/00	0.405	
H3-TA08RS22-0-EM09	06/27/00	0.459	
H3-TA08RS22-0-EM09	06/29/00	0.453	
H3-TA08RS22-0-EM09	06/29/00	0.450	
H3-TA08RS22-0-EM09	06/30/00	0.504	
H3-TA08RS22-0-EM09	06/30/00	0.405	
H3-TA08RS22-0-EM09	06/30/00	0.646	
H3-TA08RS22-0-EM09	07/03/00	0.702	
H3-TA08RS22-0-EM09	07/03/00	0.496	mouth
H3-TA08RS22-0-EM09	07/03/00	0.613	
H3-TA08RS22-0-EM09	07/05/00	0.420	
H3-TA08RS22-0-EM09	07/05/00	0.541	
H3-TA08RS22-0-EM09	07/05/00	0.354	
H3-TA08RS22-0-EM09	07/06/00	0.675	
H3-TA08RS22-0-EM09	07/06/00	0.566	
H3-TA08RS22-0-EM09	07/10/00	0.383	
H3-TA08RS22-0-EM09	07/10/00	0.469	
H3-TA08RS22-0-EM09	07/10/00	0.874	
H3-TA08RS22-0-EM09	07/10/00	0.314	
H3-TA08RS22-0-EM09	07/10/00	0.590	
H3-TA08RS22-0-EM09	07/10/00	0.905	
H3-TA08RS22-0-EM09	07/10/00	0.271	
H3-TA08RS22-0-EM09	07/10/00	0.422	
H3-TA08RS22-0-EM09	07/10/00	0.602	
H3-TA08RS22-0-EM09	07/11/00	0.532	
H3-TA08RS22-0-EM09	07/11/00	0.553	
H3-TA08RS22-0-EM09	07/14/00	0.450	
H3-TA08RS22-0-EM09	07/14/00	0.374	
H3-TA08RS22-0-EM09	07/14/00	0.523	
H3-TA08RS22-0-EM09	07/14/00	0.291	
H3-TA08RS22-0-EM09	07/17/00	0.829	
H3-TA08RS22-0-EM09	07/17/00	0.330	
H3-TA08RS22-0-EM10	06/09/00	0.286	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-0-EM10	06/09/00	0.382	
H3-TA08RS22-0-EM10	06/09/00	0.529	
H3-TA08RS22-0-EM10	06/12/00	0.317	
H3-TA08RS22-0-EM10	06/12/00	0.235	
H3-TA08RS22-0-EM10	06/12/00	0.432	
H3-TA08RS22-0-EM10	06/12/00	0.256	
H3-TA08RS22-0-EM10	06/12/00	0.502	
H3-TA08RS22-0-EM10	06/12/00	0.353	facial, eye
H3-TA08RS22-0-EM10	06/12/00	0.403	
H3-TA08RS22-0-EM10	06/13/00	0.201	
H3-TA08RS22-0-EM10	06/13/00	0.290	
H3-TA08RS22-0-EM10	06/13/00	0.238	
H3-TA08RS22-0-EM10	06/15/00	0.302	
H3-TA08RS22-0-EM10	06/15/00	0.492	
H3-TA08RS22-0-EM10	06/15/00	0.259	
H3-TA08RS22-0-EM10	06/19/00	0.454	
H3-TA08RS22-0-EM10	06/19/00	0.316	
H3-TA08RS22-0-EM10	06/19/00	0.243	
H3-TA08RS22-0-EM10	06/19/00	0.404	
H3-TA08RS22-0-EM10	06/21/00	0.474	
H3-TA08RS22-0-EM10	06/21/00	0.468	
H3-TA08RS22-0-EM10	06/21/00	0.598	
H3-TA08RS22-0-EM10	06/22/00	0.393	
H3-TA08RS22-0-EM10	06/22/00	0.441	
H3-TA08RS22-0-EM10	06/26/00	0.378	
H3-TA08RS22-0-EM10	06/30/00	0.570	
H3-TA08RS22-0-EM10	07/05/00	0.529	
H3-TA08RS22-0-EM10	07/14/00	1.006	
H3-TA08RS22-1-EM10	06/12/00	0.194	
H3-TA08RS22-1-EM10	06/12/00	0.332	
H3-TA08RS22-1-EM10	06/12/00	0.454	
H3-TA08RS22-1-EM10	06/12/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	06/12/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	06/13/00	0.152	
H3-TA08RS22-1-EM10	06/15/00	0.293	
H3-TA08RS22-1-EM10	06/19/00	0.433	
H3-TA08RS22-1-EM10	06/19/00	0.434	
H3-TA08RS22-1-EM10	06/19/00	0.427	
H3-TA08RS22-1-EM10	06/19/00	0.447	
H3-TA08RS22-1-EM10	06/19/00	0.349	
H3-TA08RS22-1-EM10	06/19/00	0.292	
H3-TA08RS22-1-EM10	06/19/00	0.303	
H3-TA08RS22-1-EM10	06/19/00	0.424	
H3-TA08RS22-1-EM10	06/19/00	0.292	
H3-TA08RS22-1-EM10	06/19/00	0.333	
H3-TA08RS22-1-EM10	06/19/00	0.320	
H3-TA08RS22-1-EM10	06/19/00	0.234	mouth
H3-TA08RS22-1-EM10	06/19/00	0.215	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 22 (46-VP-5), 2.2 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS22-1-EM10	06/20/00	0.381	
H3-TA08RS22-1-EM10	06/21/00	0.184	
H3-TA08RS22-1-EM10	06/21/00	0.151	
H3-TA08RS22-1-EM10	06/21/00	0.183	
H3-TA08RS22-1-EM10	06/22/00	0.236	
H3-TA08RS22-1-EM10	06/22/00	0.395	
H3-TA08RS22-1-EM10	06/22/00	0.389	
H3-TA08RS22-1-EM10	06/22/00	0.268	
H3-TA08RS22-1-EM10	06/22/00	0.312	
H3-TA08RS22-1-EM10	06/23/00	0.219	
H3-TA08RS22-1-EM10	06/23/00	0.354	
H3-TA08RS22-1-EM10	06/23/00	0.304	
H3-TA08RS22-1-EM10	06/23/00	0.306	
H3-TA08RS22-1-EM10	06/23/00	0.372	
H3-TA08RS22-1-EM10	06/23/00	0.219	
H3-TA08RS22-1-EM10	06/23/00	0.284	
H3-TA08RS22-1-EM10	06/26/00	0.305	
H3-TA08RS22-1-EM10	06/26/00	0.401	
H3-TA08RS22-1-EM10	06/29/00	0.256	
H3-TA08RS22-1-EM10	06/29/00	0.492	
H3-TA08RS22-1-EM10	06/30/00	0.438	
H3-TA08RS22-1-EM10	06/30/00	0.495	
H3-TA08RS22-1-EM10	07/03/00	0.322	
H3-TA08RS22-1-EM10	07/03/00	0.275	
H3-TA08RS22-1-EM10	07/05/00	0.415	
H3-TA08RS22-1-EM10	07/05/00	0.299	
H3-TA08RS22-1-EM10	07/06/00	0.344	
H3-TA08RS22-1-EM10	07/10/00	0.231	
H3-TA08RS22-1-EM10	07/10/00	0.352	
H3-TA08RS22-1-EM10	07/10/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	07/10/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	07/10/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	07/12/00	0.526	
H3-TA08RS22-1-EM10	07/12/00	0.422	
H3-TA08RS22-1-EM10	07/12/00	0.322	
H3-TA08RS22-1-EM10	07/14/00	0.343	
H3-TA08RS22-1-EM10	07/17/00	0.742	
H3-TA08RS22-1-EM10	07/17/00	0.287	
H3-TA08RS22-1-EM10	07/18/00	0.597	edema
H3-TA08RS22-1-EM10	07/19/00	0.600	
H3-TA08RS22-1-EM10	07/20/00	0.523	
H3-TA08RS22-1-EM10	07/21/00	0.475	
H3-TA08RS22-1-EM10	07/27/00	0.551	
H3-TA08RS22-1-EM10	07/27/00	0.801	
H3-TA08RS22-1-EM10	07/31/00		too decomposed or eaten to weigh
H3-TA08RS22-1-EM10	08/03/00	0.526	
H3-TA08RS22-1-EM10	08/03/00	0.425	
H3-TA08RS22-1-EM10	08/04/00	0.876	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 27 (18-VP-2), 6.05 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA04RS27-0-EM01	08/30/00	0.538	facial, mouth
H3-TA04RS27-0-EM02	07/06/00	0.371	
H3-TA04RS27-0-EM02	07/19/00	0.272	forelimb digits
H3-TA04RS27-0-EM02	07/24/00	0.437	
H3-TA04RS27-0-EM02	07/27/00	0.387	
H3-TA04RS27-0-EM02	07/31/00	0.426	
H3-TA04RS27-0-EM02	08/02/00	0.414	
H3-TA04RS27-0-EM02	08/10/00	0.540	
H3-TA04RS27-0-EM03	08/02/00	0.699	
H3-TA04RS27-0-EM03	08/14/00	0.879	
H3-TA04RS27-0-EM05	07/19/00	0.525	
H3-TA04RS27-0-EM05	08/21/00	1.927	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 28 (23b-VP-1), 0.19 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA05RS28-0-EM04	07/05/00	0.148	
H3-TA05RS28-0-EM04	07/05/00	0.263	
H3-TA05RS28-0-EM04	07/05/00	0.218	
H3-TA05RS28-0-EM04	07/05/00	0.574	
H3-TA05RS28-0-EM04	07/05/00	0.554	
H3-TA05RS28-0-EM04	07/05/00		too decomposed or eaten to weigh
H3-TA05RS28-0-EM04	07/06/00	0.549	
H3-TA05RS28-0-EM04	07/17/00	0.489	
H3-TA05RS28-0-EM04	07/17/00	0.309	
H3-TA05RS28-0-EM04	07/19/00	0.308	
H3-TA05RS28-0-EM04	07/24/00	0.299	
H3-TA05RS28-0-EM04	07/24/00	0.467	
H3-TA05RS28-0-EM04	07/27/00	0.248	
H3-TA05RS28-0-EM04	07/27/00	0.277	
H3-TA05RS28-0-EM04	07/27/00	0.230	
H3-TA05RS28-0-EM05	06/13/00	0.356	
H3-TA05RS28-0-EM05	06/19/00	0.325	
H3-TA05RS28-0-EM05	06/19/00	0.412	
H3-TA05RS28-0-EM05	06/26/00	0.361	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 29 (23b-VP-2), 0.11 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA05RS29-0-EM01	06/05/00	0.628	
H3-TA05RS29-1-EM01	06/01/00	0.328	
H3-TA05RS29-1-EM01	06/05/00	0.277	
H3-TA05RS29-1-EM01	06/05/00	0.140	
H3-TA05RS29-1-EM01	06/07/00	0.873	
H3-TA05RS29-1-EM01	06/09/00	0.912	
H3-TA05RS29-1-EM01	06/13/00	0.472	
H3-TA05RS29-0-EM02	06/19/00	0.240	
H3-TA05RS29-0-EM02	06/19/00	0.276	
H3-TA05RS29-0-EM02	06/19/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM02	06/22/00	0.272	
H3-TA05RS29-0-EM02	06/22/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM02	06/27/00	0.264	
H3-TA05RS29-0-EM02	06/29/00	0.268	
H3-TA05RS29-0-EM02	07/03/00	0.328	
H3-TA05RS29-0-EM02	07/03/00	0.276	
H3-TA05RS29-0-EM02	07/05/00	0.391	
H3-TA05RS29-0-EM02	07/06/00	0.305	
H3-TA05RS29-0-EM02	07/10/00	0.292	
H3-TA05RS29-0-EM02	07/10/00	0.271	
H3-TA05RS29-0-EM02	07/10/00	0.248	
H3-TA05RS29-0-EM02	07/18/00	0.313	
H3-TA05RS29-0-EM02	07/18/00	0.438	
H3-TA05RS29-0-EM02	07/24/00	0.262	
H3-TA05RS29-0-EM02	07/27/00	0.107	
H3-TA05RS29-0-EM02	07/27/00	0.298	
H3-TA05RS29-0-EM02	07/31/00	0.265	
H3-TA05RS29-0-EM02	08/07/00	0.171	
H3-TA05RS29-0-EM02	08/07/00	0.282	
H3-TA05RS29-0-EM02	08/14/00	0.473	
H3-TA05RS29-0-EM02	08/23/00	0.290	
H3-TA05RS29-0-EM02	09/05/00	0.312	
H3-TA05RS29-0-EM03	06/09/00	0.122	
H3-TA05RS29-0-EM03	06/28/00	0.207	
H3-TA05RS29-0-EM03	06/28/00	0.225	
H3-TA05RS29-0-EM03	06/28/00	0.206	
H3-TA05RS29-0-EM03	07/03/00	0.134	
H3-TA05RS29-0-EM03	07/03/00	0.238	
H3-TA05RS29-0-EM03	07/21/00	0.384	
H3-TA05RS29-0-EM03	07/27/00	0.453	
H3-TA05RS29-0-EM03	07/31/00	0.591	
H3-TA05RS29-0-EM03	08/03/00	0.746	
H3-TA05RS29-0-EM03	08/21/00	0.705	
H3-TA05RS29-0-EM04	06/02/00	0.206	
H3-TA05RS29-0-EM05	06/05/00	0.271	
H3-TA05RS29-0-EM05	06/05/00	0.498	
H3-TA05RS29-0-EM05	06/06/00	0.194	
H3-TA05RS29-0-EM05	06/09/00	0.332	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 29 (23b-VP-2), 0.11 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA05RS29-0-EM05	06/09/00	0.984	
H3-TA05RS29-0-EM05	06/19/00	0.386	
H3-TA05RS29-0-EM05	06/19/00	0.320	
H3-TA05RS29-0-EM05	06/19/00	0.789	
H3-TA05RS29-0-EM05	06/19/00	0.382	
H3-TA05RS29-0-EM05	06/19/00	0.459	
H3-TA05RS29-0-EM05	06/19/00	0.320	
H3-TA05RS29-0-EM05	06/19/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	06/22/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	06/27/00	0.569	
H3-TA05RS29-0-EM05	06/27/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	06/27/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	06/29/00	0.148	
H3-TA05RS29-0-EM05	06/29/00	0.508	
H3-TA05RS29-0-EM05	07/06/00	0.477	edema
H3-TA05RS29-0-EM05	07/06/00	0.368	
H3-TA05RS29-0-EM05	07/10/00	0.642	
H3-TA05RS29-0-EM05	07/10/00	0.390	edema, tail visceral
H3-TA05RS29-0-EM05	07/10/00	0.592	
H3-TA05RS29-0-EM05	07/10/00	0.517	
H3-TA05RS29-0-EM05	07/18/00	0.561	
H3-TA05RS29-0-EM05	07/18/00	0.280	
H3-TA05RS29-0-EM05	07/18/00	0.302	
H3-TA05RS29-0-EM05	07/18/00	0.237	edema
H3-TA05RS29-0-EM05	07/18/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	07/18/00		too decomposed or eaten to weigh
H3-TA05RS29-0-EM05	08/07/00	0.685	
H3-TA05RS29-0-EM05	08/14/00		too decomposed or eaten to weigh

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM01	06/06/00	0.180	
H3-TA08RS30-0-EM01	06/19/00	0.569	
H3-TA08RS30-0-EM01	06/19/00	0.477	
H3-TA08RS30-0-EM01	06/19/00	0.465	
H3-TA08RS30-0-EM01	06/19/00	0.619	facial, mouth, visceral (gut)
H3-TA08RS30-0-EM01	06/19/00	0.408	
H3-TA08RS30-0-EM01	06/19/00	0.408	
H3-TA08RS30-0-EM01	06/19/00	0.213	edema, facial, mouth
H3-TA08RS30-0-EM01	06/19/00	0.483	
H3-TA08RS30-0-EM01	06/19/00	0.672	
H3-TA08RS30-0-EM01	06/19/00	0.513	
H3-TA08RS30-0-EM01	06/20/00	0.393	
H3-TA08RS30-0-EM01	06/20/00	0.508	
H3-TA08RS30-0-EM01	06/20/00	0.222	
H3-TA08RS30-0-EM01	06/20/00	0.255	
H3-TA08RS30-0-EM01	06/21/00	0.522	
H3-TA08RS30-0-EM01	06/21/00	0.384	
H3-TA08RS30-0-EM01	06/22/00	0.631	
H3-TA08RS30-0-EM01	06/22/00	0.323	
H3-TA08RS30-0-EM01	06/22/00	0.488	
H3-TA08RS30-0-EM01	06/22/00	0.525	edema, facial
H3-TA08RS30-0-EM01	06/22/00	0.441	
H3-TA08RS30-0-EM01	06/22/00	0.574	
H3-TA08RS30-0-EM01	06/22/00	0.580	
H3-TA08RS30-0-EM01	06/23/00	0.280	
H3-TA08RS30-0-EM01	06/23/00	0.621	
H3-TA08RS30-0-EM01	06/23/00	0.407	
H3-TA08RS30-0-EM01	06/23/00	0.485	
H3-TA08RS30-0-EM01	06/26/00	0.475	
H3-TA08RS30-0-EM01	06/26/00	0.401	
H3-TA08RS30-0-EM01	06/26/00	0.668	facial, eye
H3-TA08RS30-0-EM01	06/26/00	0.552	
H3-TA08RS30-0-EM01	06/26/00	0.465	
H3-TA08RS30-0-EM01	06/26/00	0.445	
H3-TA08RS30-0-EM01	06/26/00	0.218	
H3-TA08RS30-0-EM01	06/26/00	0.296	
H3-TA08RS30-0-EM01	06/26/00	0.351	
H3-TA08RS30-0-EM01	06/26/00	0.455	
H3-TA08RS30-0-EM01	06/26/00	0.363	
H3-TA08RS30-0-EM01	06/26/00	0.467	
H3-TA08RS30-0-EM01	06/26/00	0.289	
H3-TA08RS30-0-EM01	06/26/00	0.177	
H3-TA08RS30-0-EM01	06/29/00	0.813	
H3-TA08RS30-0-EM01	06/29/00	0.530	facial, hindlimb digit
H3-TA08RS30-0-EM01	06/29/00	0.587	
H3-TA08RS30-0-EM01	06/29/00	0.310	
H3-TA08RS30-0-EM01	06/30/00	0.376	
H3-TA08RS30-0-EM01	06/30/00	0.685	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM01	06/30/00	0.592	facial, eye (lens), mouth
H3-TA08RS30-0-EM01	06/30/00	0.554	
H3-TA08RS30-0-EM01	06/30/00	0.489	
H3-TA08RS30-0-EM01	07/03/00	0.848	
H3-TA08RS30-0-EM01	07/03/00	0.422	
H3-TA08RS30-0-EM01	07/03/00	0.700	
H3-TA08RS30-0-EM01	07/03/00	0.460	
H3-TA08RS30-0-EM01	07/03/00	0.584	
H3-TA08RS30-0-EM01	07/03/00	0.667	
H3-TA08RS30-0-EM01	07/03/00	0.566	
H3-TA08RS30-0-EM01	07/05/00	0.228	
H3-TA08RS30-0-EM01	07/05/00	0.308	
H3-TA08RS30-0-EM01	07/06/00	0.524	
H3-TA08RS30-0-EM01	07/06/00	0.581	facial, spine
H3-TA08RS30-0-EM01	07/10/00	0.919	
H3-TA08RS30-0-EM01	07/10/00	0.944	
H3-TA08RS30-0-EM01	07/10/00	0.480	
H3-TA08RS30-0-EM01	07/10/00	0.548	edema
H3-TA08RS30-0-EM01	07/10/00	0.428	
H3-TA08RS30-0-EM01	07/10/00	0.439	
H3-TA08RS30-0-EM01	07/10/00	0.750	
H3-TA08RS30-0-EM01	07/14/00	0.834	
H3-TA08RS30-0-EM01	07/17/00	0.556	forelimb, hindlimb, visceral (gut)
H3-TA08RS30-0-EM01	08/09/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM02	06/01/00	0.206	
H3-TA08RS30-0-EM02	06/02/00	0.180	
H3-TA08RS30-0-EM02	06/12/00	0.297	
H3-TA08RS30-0-EM02	06/12/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM02	06/15/00	0.468	
H3-TA08RS30-0-EM02	06/19/00	0.419	
H3-TA08RS30-0-EM02	06/19/00	0.593	facial, mouth, cloaca
H3-TA08RS30-0-EM02	06/19/00	0.442	
H3-TA08RS30-0-EM02	06/19/00	0.362	
H3-TA08RS30-0-EM02	06/19/00	0.510	
H3-TA08RS30-0-EM02	06/19/00	0.315	
H3-TA08RS30-0-EM02	06/19/00	0.371	
H3-TA08RS30-0-EM02	06/19/00	0.457	
H3-TA08RS30-0-EM02	06/19/00	0.432	
H3-TA08RS30-0-EM02	06/20/00	0.401	
H3-TA08RS30-0-EM02	06/21/00	0.469	
H3-TA08RS30-0-EM02	06/21/00	0.470	facial, eye, mouth
H3-TA08RS30-0-EM02	06/22/00	0.400	
H3-TA08RS30-0-EM02	06/22/00	0.422	
H3-TA08RS30-0-EM02	06/23/00	0.464	
H3-TA08RS30-0-EM02	06/23/00	0.522	spine (urostyle)
H3-TA08RS30-0-EM02	06/23/00	0.412	
H3-TA08RS30-0-EM02	06/23/00	0.435	hindlimb
H3-TA08RS30-0-EM02	06/23/00	0.479	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM02	06/23/00	0.479	
H3-TA08RS30-0-EM02	06/26/00	0.568	
H3-TA08RS30-0-EM02	06/26/00	0.274	
H3-TA08RS30-0-EM02	06/26/00	0.502	edema, cloaca
H3-TA08RS30-0-EM02	06/26/00	0.407	
H3-TA08RS30-0-EM02	06/26/00	0.390	
H3-TA08RS30-0-EM02	06/26/00	0.581	
H3-TA08RS30-0-EM02	06/26/00	0.490	facial, mouth, cloaca
H3-TA08RS30-0-EM02	06/26/00	0.366	
H3-TA08RS30-0-EM02	06/26/00	0.342	
H3-TA08RS30-0-EM02	06/26/00	0.330	
H3-TA08RS30-0-EM02	06/26/00	0.398	
H3-TA08RS30-0-EM02	06/26/00	0.378	edema, eye (lens)
H3-TA08RS30-0-EM02	06/26/00	0.480	
H3-TA08RS30-0-EM02	06/26/00	0.332	
H3-TA08RS30-0-EM02	06/26/00	0.428	facial, mouth
H3-TA08RS30-0-EM02	06/26/00	0.224	
H3-TA08RS30-0-EM02	06/28/00	0.397	
H3-TA08RS30-0-EM02	06/28/00	0.347	
H3-TA08RS30-0-EM02	06/29/00	0.647	
H3-TA08RS30-0-EM02	06/29/00	0.677	
H3-TA08RS30-0-EM02	06/29/00	0.470	forelimb (notacarsal)
H3-TA08RS30-0-EM02	06/29/00	0.538	
H3-TA08RS30-0-EM02	06/29/00	0.443	
H3-TA08RS30-0-EM02	06/29/00	0.415	
H3-TA08RS30-0-EM02	06/29/00	0.420	
H3-TA08RS30-0-EM02	06/29/00	0.413	
H3-TA08RS30-0-EM02	06/29/00	0.648	edema, facial, mouth
H3-TA08RS30-0-EM02	06/30/00	0.605	
H3-TA08RS30-0-EM02	06/30/00	0.462	facial, eye (lens), pigmentation
H3-TA08RS30-0-EM02	07/03/00	0.364	
H3-TA08RS30-0-EM02	07/03/00	0.485	
H3-TA08RS30-0-EM02	07/03/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM02	07/05/00	0.466	
H3-TA08RS30-0-EM02	07/05/00	0.298	
H3-TA08RS30-0-EM02	07/05/00	0.515	
H3-TA08RS30-0-EM02	07/05/00	0.676	
H3-TA08RS30-0-EM02	07/10/00	0.863	
H3-TA08RS30-0-EM02	07/10/00	0.998	
H3-TA08RS30-0-EM02	07/10/00	0.647	
H3-TA08RS30-0-EM02	07/10/00	0.235	
H3-TA08RS30-0-EM02	07/10/00	0.314	
H3-TA08RS30-0-EM03	06/20/00	0.328	facial, mouth (lower jaw)
H3-TA08RS30-0-EM03	06/20/00	0.463	
H3-TA08RS30-0-EM03	06/22/00	0.507	
H3-TA08RS30-0-EM03	06/22/00	0.669	
H3-TA08RS30-0-EM03	06/22/00	0.548	
H3-TA08RS30-0-EM03	06/22/00	0.652	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM03	06/22/00	0.556	
H3-TA08RS30-0-EM03	06/23/00	0.270	
H3-TA08RS30-0-EM03	06/23/00	0.177	
H3-TA08RS30-0-EM03	06/23/00	0.318	
H3-TA08RS30-0-EM03	06/23/00	0.508	mouth, hindlimb flexure
H3-TA08RS30-0-EM03	06/23/00	0.424	
H3-TA08RS30-0-EM03	06/23/00	0.590	
H3-TA08RS30-0-EM03	06/26/00	0.526	facial, mouth
H3-TA08RS30-0-EM03	06/26/00	0.736	
H3-TA08RS30-0-EM03	06/26/00	0.572	
H3-TA08RS30-0-EM03	06/26/00	0.798	
H3-TA08RS30-0-EM03	06/26/00	0.781	eye (lens)
H3-TA08RS30-0-EM03	06/26/00	0.887	
H3-TA08RS30-0-EM03	06/26/00	0.441	
H3-TA08RS30-0-EM03	06/26/00	0.763	
H3-TA08RS30-0-EM03	06/26/00	0.576	eye (lens)
H3-TA08RS30-0-EM03	06/26/00	0.511	
H3-TA08RS30-0-EM03	06/26/00	0.478	edema
H3-TA08RS30-0-EM03	06/26/00	0.629	
H3-TA08RS30-0-EM03	06/26/00	0.832	
H3-TA08RS30-0-EM03	06/26/00	0.799	
H3-TA08RS30-0-EM03	06/26/00	0.698	spine flexure
H3-TA08RS30-0-EM03	06/26/00	0.708	
H3-TA08RS30-0-EM03	06/26/00	0.474	edema, hindlimb flexure
H3-TA08RS30-0-EM03	06/28/00	0.579	
H3-TA08RS30-0-EM03	06/28/00	0.515	hindlimb flexure, digit
H3-TA08RS30-0-EM03	06/28/00	0.648	
H3-TA08RS30-0-EM03	06/29/00	0.558	
H3-TA08RS30-0-EM03	06/29/00	0.479	
H3-TA08RS30-0-EM03	06/29/00	0.586	edema
H3-TA08RS30-0-EM03	06/29/00	0.635	edema
H3-TA08RS30-0-EM03	06/29/00	1.010	
H3-TA08RS30-0-EM03	06/29/00	0.492	forelimb flexure
H3-TA08RS30-0-EM03	06/29/00	0.818	
H3-TA08RS30-0-EM03	06/29/00	0.782	
H3-TA08RS30-0-EM03	06/29/00	0.529	
H3-TA08RS30-0-EM03	06/29/00	0.634	
H3-TA08RS30-0-EM03	06/29/00	0.710	facial, mouth
H3-TA08RS30-0-EM03	06/30/00	0.725	
H3-TA08RS30-0-EM03	06/30/00	0.716	
H3-TA08RS30-0-EM03	06/30/00	0.799	
H3-TA08RS30-0-EM03	06/30/00	0.611	edema
H3-TA08RS30-0-EM03	06/30/00	0.712	
H3-TA08RS30-0-EM03	06/30/00	0.925	
H3-TA08RS30-0-EM03	06/30/00	0.627	
H3-TA08RS30-0-EM03	07/03/00	0.868	
H3-TA08RS30-0-EM03	07/03/00	0.756	edema, spine flexure
H3-TA08RS30-0-EM03	07/03/00	0.808	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM03	07/03/00	1.073	
H3-TA08RS30-0-EM03	07/03/00	0.585	
H3-TA08RS30-0-EM03	07/03/00	0.915	
H3-TA08RS30-0-EM03	07/03/00	0.718	
H3-TA08RS30-0-EM03	07/03/00	0.784	edema
H3-TA08RS30-0-EM03	07/03/00	1.040	
H3-TA08RS30-0-EM03	07/03/00	0.976	
H3-TA08RS30-0-EM03	07/03/00	1.183	
H3-TA08RS30-0-EM03	07/05/00	1.247	
H3-TA08RS30-0-EM03	07/05/00	1.053	
H3-TA08RS30-0-EM03	07/05/00	1.080	
H3-TA08RS30-0-EM03	07/05/00	0.503	facial, mouth
H3-TA08RS30-0-EM03	07/05/00	0.630	
H3-TA08RS30-0-EM03	07/05/00	0.527	
H3-TA08RS30-0-EM03	07/06/00	0.889	
H3-TA08RS30-0-EM03	07/10/00	1.368	
H3-TA08RS30-0-EM03	07/10/00	0.613	
H3-TA08RS30-0-EM03	07/10/00	1.013	
H3-TA08RS30-0-EM03	07/10/00	1.088	
H3-TA08RS30-0-EM04	06/12/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM04	06/19/00	0.657	
H3-TA08RS30-0-EM04	06/19/00	0.580	
H3-TA08RS30-0-EM04	06/19/00	0.502	
H3-TA08RS30-0-EM04	06/19/00	0.469	eye
H3-TA08RS30-0-EM04	06/19/00	0.962	
H3-TA08RS30-0-EM04	06/19/00	0.614	
H3-TA08RS30-0-EM04	06/20/00	0.833	
H3-TA08RS30-0-EM04	06/20/00	0.439	eye (lens)
H3-TA08RS30-0-EM04	06/20/00	0.668	
H3-TA08RS30-0-EM04	06/20/00	0.412	
H3-TA08RS30-0-EM04	06/20/00	0.478	
H3-TA08RS30-0-EM04	06/20/00	0.436	
H3-TA08RS30-0-EM04	06/20/00	0.408	hindlimb (metatarsal)
H3-TA08RS30-0-EM04	06/21/00	0.771	
H3-TA08RS30-0-EM04	06/21/00	0.479	
H3-TA08RS30-0-EM04	06/21/00	0.558	
H3-TA08RS30-0-EM04	06/22/00	0.633	
H3-TA08RS30-0-EM04	06/22/00	0.671	
H3-TA08RS30-0-EM04	06/22/00	0.696	
H3-TA08RS30-0-EM04	06/22/00	0.610	
H3-TA08RS30-0-EM04	06/23/00	0.919	
H3-TA08RS30-0-EM04	06/23/00	0.560	facial, mouth
H3-TA08RS30-0-EM04	06/23/00	0.628	
H3-TA08RS30-0-EM04	06/23/00	0.641	
H3-TA08RS30-0-EM04	06/23/00	0.604	
H3-TA08RS30-0-EM04	06/23/00	0.808	
H3-TA08RS30-0-EM04	06/23/00	0.571	
H3-TA08RS30-0-EM04	06/23/00	0.671	edema, facial, visceral

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Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM04	06/26/00	0.574	
H3-TA08RS30-0-EM04	06/26/00	0.730	
H3-TA08RS30-0-EM04	06/26/00	0.744	
H3-TA08RS30-0-EM04	06/26/00	0.533	
H3-TA08RS30-0-EM04	06/26/00	0.850	
H3-TA08RS30-0-EM04	06/26/00	0.895	
H3-TA08RS30-0-EM04	06/26/00	0.966	
H3-TA08RS30-0-EM04	06/26/00	0.394	edema
H3-TA08RS30-0-EM04	06/26/00	0.685	
H3-TA08RS30-0-EM04	06/26/00	0.767	
H3-TA08RS30-0-EM04	06/26/00	0.600	
H3-TA08RS30-0-EM04	06/26/00	0.334	
H3-TA08RS30-0-EM04	06/26/00	0.404	
H3-TA08RS30-0-EM04	06/26/00	0.515	
H3-TA08RS30-0-EM04	06/26/00	0.377	
H3-TA08RS30-0-EM04	06/26/00	1.096	
H3-TA08RS30-0-EM04	06/26/00	0.442	
H3-TA08RS30-0-EM04	06/26/00	1.030	
H3-TA08RS30-0-EM04	06/28/00	1.619	
H3-TA08RS30-0-EM04	06/28/00	0.591	
H3-TA08RS30-0-EM04	06/29/00	0.550	
H3-TA08RS30-0-EM04	06/29/00	0.658	
H3-TA08RS30-0-EM04	06/29/00	0.622	facial, skin
H3-TA08RS30-0-EM04	06/29/00	1.208	
H3-TA08RS30-0-EM04	06/30/00	1.094	
H3-TA08RS30-0-EM04	06/30/00	1.261	
H3-TA08RS30-0-EM04	06/30/00	1.230	
H3-TA08RS30-0-EM04	06/30/00	0.582	
H3-TA08RS30-0-EM04	07/03/00	0.764	
H3-TA08RS30-0-EM04	07/03/00	0.950	
H3-TA08RS30-0-EM04	07/03/00	0.788	
H3-TA08RS30-0-EM04	07/03/00	1.252	
H3-TA08RS30-0-EM04	07/03/00	0.998	
H3-TA08RS30-0-EM04	07/03/00	0.774	facial, mouth
H3-TA08RS30-0-EM04	07/03/00	0.902	
H3-TA08RS30-0-EM04	07/03/00	0.824	
H3-TA08RS30-0-EM04	07/03/00	1.048	
H3-TA08RS30-0-EM04	07/03/00	0.829	spine flexure
H3-TA08RS30-0-EM04	07/03/00	1.045	
H3-TA08RS30-0-EM04	07/05/00	0.958	
H3-TA08RS30-0-EM04	07/05/00	0.910	
H3-TA08RS30-0-EM04	07/06/00	0.784	
H3-TA08RS30-0-EM04	07/10/00	1.088	
H3-TA08RS30-0-EM04	07/10/00	0.946	mouth
H3-TA08RS30-0-EM04	07/10/00	0.786	
H3-TA08RS30-0-EM04	07/10/00	1.941	
H3-TA08RS30-0-EM04	07/11/00	1.329	
H3-TA08RS30-0-EM04	07/11/00	1.420	

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VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM04	07/17/00	0.887	
H3-TA08RS30-0-EM05	06/06/00	0.204	
H3-TA08RS30-0-EM05	06/19/00	0.541	edema, facial
H3-TA08RS30-0-EM05	06/20/00	0.401	
H3-TA08RS30-0-EM05	06/20/00	0.329	
H3-TA08RS30-0-EM05	06/20/00	0.495	
H3-TA08RS30-0-EM05	06/20/00	0.508	edema, facial, mouth
H3-TA08RS30-0-EM05	06/20/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM05	06/20/00		too decomposed or eaten to weigh
H3-TA08RS30-0-EM05	06/21/00	0.512	
H3-TA08RS30-0-EM05	06/21/00	0.479	
H3-TA08RS30-0-EM05	06/21/00	0.422	facial, mouth
H3-TA08RS30-0-EM05	06/21/00	0.379	
H3-TA08RS30-0-EM05	06/22/00	0.568	edema
H3-TA08RS30-0-EM05	06/22/00	0.447	
H3-TA08RS30-0-EM05	06/22/00	0.266	
H3-TA08RS30-0-EM05	06/22/00	0.797	
H3-TA08RS30-0-EM05	06/23/00	0.437	hindlimb
H3-TA08RS30-0-EM05	06/23/00	0.492	
H3-TA08RS30-0-EM05	06/23/00	0.433	
H3-TA08RS30-0-EM05	06/23/00	0.683	
H3-TA08RS30-0-EM05	06/23/00	0.459	edema
H3-TA08RS30-0-EM05	06/23/00	0.440	
H3-TA08RS30-0-EM05	06/23/00	0.550	
H3-TA08RS30-0-EM05	06/23/00	0.452	
H3-TA08RS30-0-EM05	06/23/00	0.305	
H3-TA08RS30-0-EM05	06/26/00	0.478	
H3-TA08RS30-0-EM05	06/26/00	0.708	
H3-TA08RS30-0-EM05	06/26/00	0.450	
H3-TA08RS30-0-EM05	06/26/00	0.615	
H3-TA08RS30-0-EM05	06/26/00	0.483	
H3-TA08RS30-0-EM05	06/26/00	0.838	
H3-TA08RS30-0-EM05	06/26/00	0.467	
H3-TA08RS30-0-EM05	06/26/00	0.603	
H3-TA08RS30-0-EM05	06/26/00	0.333	
H3-TA08RS30-0-EM05	06/26/00	0.427	eye (lens)
H3-TA08RS30-0-EM05	06/26/00	0.608	
H3-TA08RS30-0-EM05	06/26/00	0.586	
H3-TA08RS30-0-EM05	06/26/00	0.379	
H3-TA08RS30-0-EM05	06/26/00	0.662	
H3-TA08RS30-0-EM05	06/26/00	0.586	
H3-TA08RS30-0-EM05	06/26/00	0.233	
H3-TA08RS30-0-EM05	06/26/00	0.546	
H3-TA08RS30-0-EM05	06/26/00	0.531	mouth, eye (lens)
H3-TA08RS30-0-EM05	06/26/00	0.693	
H3-TA08RS30-0-EM05	06/26/00	0.635	
H3-TA08RS30-0-EM05	06/26/00	0.643	
H3-TA08RS30-0-EM05	06/26/00	0.557	

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VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-0-EM05	06/26/00	0.565	
H3-TA08RS30-0-EM05	06/26/00	0.382	hindlimb
H3-TA08RS30-0-EM05	06/26/00	0.523	
H3-TA08RS30-0-EM05	06/26/00	0.520	
H3-TA08RS30-0-EM05	06/28/00	0.607	
H3-TA08RS30-0-EM05	06/28/00	0.490	edema
H3-TA08RS30-0-EM05	06/29/00	0.982	
H3-TA08RS30-0-EM05	06/29/00	0.706	
H3-TA08RS30-0-EM05	06/29/00	0.771	
H3-TA08RS30-0-EM05	06/29/00	0.622	
H3-TA08RS30-0-EM05	06/29/00	1.197	
H3-TA08RS30-0-EM05	06/30/00	0.703	
H3-TA08RS30-0-EM05	06/30/00	0.669	
H3-TA08RS30-0-EM05	06/30/00	0.528	edema, visceral
H3-TA08RS30-0-EM05	06/30/00	0.671	
H3-TA08RS30-0-EM05	06/30/00	0.573	
H3-TA08RS30-0-EM05	07/03/00	0.541	facial
H3-TA08RS30-0-EM05	07/03/00	0.799	
H3-TA08RS30-0-EM05	07/03/00	0.793	
H3-TA08RS30-0-EM05	07/03/00	0.825	
H3-TA08RS30-0-EM05	07/03/00	0.965	
H3-TA08RS30-0-EM05	07/03/00	0.510	
H3-TA08RS30-0-EM05	07/03/00	0.635	
H3-TA08RS30-0-EM05	07/05/00	0.843	
H3-TA08RS30-0-EM05	07/06/00	0.584	facial, mouth
H3-TA08RS30-0-EM05	07/10/00	0.682	
H3-TA08RS30-0-EM05	07/10/00	0.768	
H3-TA08RS30-0-EM05	07/10/00	0.771	
H3-TA08RS30-0-EM05	07/12/00	0.583	mouth, eye
H3-TA08RS30-0-EM05	07/14/00	1.369	
H3-TA08RS30-0-EM05	07/14/00	0.863	
H3-TA08RS30-0-EM05	07/14/00	0.851	
H3-TA08RS30-0-EM05	07/14/00	0.717	
H3-TA08RS30-0-EM05	07/17/00	0.992	hindlimb
H3-TA08RS30-1-EM05	06/06/00	0.209	edema
H3-TA08RS30-1-EM05	06/20/00	0.608	
H3-TA08RS30-1-EM05	06/21/00	0.604	
H3-TA08RS30-1-EM05	06/21/00	0.412	
H3-TA08RS30-1-EM05	06/22/00	0.368	
H3-TA08RS30-1-EM05	06/22/00	0.532	facial, eye (lens)
H3-TA08RS30-1-EM05	06/23/00	0.532	
H3-TA08RS30-1-EM05	06/23/00	0.309	
H3-TA08RS30-1-EM05	06/26/00	0.361	
H3-TA08RS30-1-EM05	06/26/00	0.313	
H3-TA08RS30-1-EM05	06/26/00	0.496	
H3-TA08RS30-1-EM05	06/26/00	0.634	
H3-TA08RS30-1-EM05	06/26/00	0.543	
H3-TA08RS30-1-EM05	06/26/00	0.471	

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VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-1-EM05	06/26/00	0.557	
H3-TA08RS30-1-EM05	06/26/00	0.574	
H3-TA08RS30-1-EM05	06/26/00	0.692	
H3-TA08RS30-1-EM05	06/26/00	0.465	tail, cloaca
H3-TA08RS30-1-EM05	06/26/00	0.670	
H3-TA08RS30-1-EM05	06/26/00	0.433	
H3-TA08RS30-1-EM05	06/26/00	0.806	
H3-TA08RS30-1-EM05	06/26/00	0.345	
H3-TA08RS30-1-EM05	06/28/00	0.504	
H3-TA08RS30-1-EM05	06/28/00	0.512	forelimb digit
H3-TA08RS30-1-EM05	06/29/00	0.660	
H3-TA08RS30-1-EM05	06/29/00	0.468	
H3-TA08RS30-1-EM05	06/29/00	0.551	
H3-TA08RS30-1-EM05	06/29/00	0.717	
H3-TA08RS30-1-EM05	06/29/00	0.823	
H3-TA08RS30-1-EM05	06/29/00	0.793	
H3-TA08RS30-1-EM05	06/29/00	0.507	facial, cloaca (tail)
H3-TA08RS30-1-EM05	06/29/00	0.534	
H3-TA08RS30-1-EM05	06/29/00	0.474	
H3-TA08RS30-1-EM05	06/30/00	0.913	
H3-TA08RS30-1-EM05	06/30/00	0.753	
H3-TA08RS30-1-EM05	06/30/00	0.865	
H3-TA08RS30-1-EM05	06/30/00	1.019	
H3-TA08RS30-1-EM05	06/30/00	0.531	
H3-TA08RS30-1-EM05	06/30/00	0.680	
H3-TA08RS30-1-EM05	06/30/00	0.602	facial, incomplete tail resorption
H3-TA08RS30-1-EM05	07/03/00	0.763	
H3-TA08RS30-1-EM05	07/03/00	0.557	eye (lens)
H3-TA08RS30-1-EM05	07/03/00	0.501	
H3-TA08RS30-1-EM05	07/03/00	0.615	
H3-TA08RS30-1-EM05	07/03/00	0.517	eye (lens)
H3-TA08RS30-1-EM05	07/03/00	0.841	
H3-TA08RS30-1-EM05	07/03/00	0.672	
H3-TA08RS30-1-EM05	07/03/00	0.810	
H3-TA08RS30-1-EM05	07/03/00	0.854	
H3-TA08RS30-1-EM05	07/03/00	0.554	hindlimb digit
H3-TA08RS30-1-EM05	07/03/00	0.453	
H3-TA08RS30-1-EM05	07/03/00	0.886	
H3-TA08RS30-1-EM05	07/03/00	0.605	
H3-TA08RS30-1-EM05	07/03/00	0.578	
H3-TA08RS30-1-EM05	07/05/00	0.723	
H3-TA08RS30-1-EM05	07/05/00	0.647	facial, mouth
H3-TA08RS30-1-EM05	07/05/00	1.247	
H3-TA08RS30-1-EM05	07/05/00	0.659	
H3-TA08RS30-1-EM05	07/05/00	0.713	
H3-TA08RS30-1-EM05	07/05/00	0.714	
H3-TA08RS30-1-EM05	07/06/00	0.598	
H3-TA08RS30-1-EM05	07/06/00	1.207	

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SITE 30 (38-VP-1), 28.0 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30-1-EM05	07/10/00	0.498	
H3-TA08RS30-1-EM05	07/10/00	0.724	
H3-TA08RS30-1-EM05	07/10/00	0.544	facial, head
H3-TA08RS30-1-EM05	07/10/00	0.437	
H3-TA08RS30-1-EM05	07/10/00	1.711	
H3-TA08RS30-1-EM05	07/10/00	1.447	
H3-TA08RS30-1-EM05	07/11/00	0.755	
H3-TA08RS30-1-EM05	07/12/00	1.044	
H3-TA08RS30-1-EM05	07/12/00	0.633	
H3-TA08RS30-1-EM05	07/12/00	0.810	
H3-TA08RS30-1-EM05	07/12/00	0.725	
H3-TA08RS30-1-EM05	07/14/00	0.748	
H3-TA08RS30-1-EM05	07/17/00	0.937	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 32 (46-VP-1), 0.5 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS32-0-EM01	06/09/00	0.234	
H3-TA08RS32-0-EM01	06/09/00	0.215	
H3-TA08RS32-0-EM01	06/09/00	0.164	
H3-TA08RS32-1-EM01	05/30/00	0.092	
H3-TA08RS32-1-EM01	06/01/00	0.203	
H3-TA08RS32-1-EM01	06/06/00	0.102	
H3-TA08RS32-1-EM01	06/08/00	0.296	
H3-TA08RS32-1-EM01	06/08/00	0.272	
H3-TA08RS32-1-EM01	06/08/00	0.159	
H3-TA08RS32-1-EM01	06/09/00	0.209	
H3-TA08RS32-1-EM01	06/09/00	0.175	facial, mouth
H3-TA08RS32-1-EM01	06/09/00	0.178	
H3-TA08RS32-1-EM01	06/09/00	0.239	
H3-TA08RS32-1-EM01	06/09/00	0.121	
H3-TA08RS32-1-EM01	06/09/00	0.113	
H3-TA08RS32-1-EM01	06/15/00	0.271	
H3-TA08RS32-1-EM01	06/15/00	0.258	
H3-TA08RS32-1-EM01	06/15/00	0.205	
H3-TA08RS32-1-EM01	06/15/00	0.190	
H3-TA08RS32-1-EM01	06/19/00	0.325	
H3-TA08RS32-1-EM01	06/19/00	0.233	
H3-TA08RS32-1-EM01	06/20/00	0.191	
H3-TA08RS32-1-EM01	06/21/00	0.113	
H3-TA08RS32-1-EM01	07/03/00	0.152	
H3-TA08RS32-1-EM01	07/03/00	0.124	
H3-TA08RS32-1-EM01	07/05/00	0.423	
H3-TA08RS32-1-EM01	07/05/00	0.289	
H3-TA08RS32-1-EM01	07/05/00	0.214	
H3-TA08RS32-1-EM01	07/18/00	0.421	
H3-TA08RS32-0-EM02	06/06/00	0.190	
H3-TA08RS32-0-EM02	06/09/00	0.183	
H3-TA08RS32-0-EM02	06/09/00	0.102	
H3-TA08RS32-0-EM02	06/09/00	0.668	
H3-TA08RS32-0-EM02	06/15/00	0.261	
H3-TA08RS32-0-EM02	06/15/00	0.167	
H3-TA08RS32-0-EM02	06/27/00	0.396	
H3-TA08RS32-0-EM02	07/03/00	0.138	
H3-TA08RS32-0-EM02	07/03/00	0.432	eye (lens)
H3-TA08RS32-0-EM02	07/03/00	0.447	
H3-TA08RS32-0-EM02	07/03/00	0.441	
H3-TA08RS32-0-EM02	07/06/00	0.305	
H3-TA08RS32-0-EM02	07/06/00	0.357	
H3-TA08RS32-0-EM02	07/10/00	0.217	
H3-TA08RS32-0-EM02	07/10/00	0.223	
H3-TA08RS32-0-EM02	07/10/00	0.343	
H3-TA08RS32-0-EM02	07/12/00	0.547	
H3-TA08RS32-0-EM02	07/12/00	0.338	
H3-TA08RS32-0-EM02	07/12/00	0.319	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 32 (46-VP-1), 0.5 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS32-0-EM02	07/18/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM02	07/20/00	0.539	
H3-TA08RS32-0-EM02	07/24/00	0.345	
H3-TA08RS32-0-EM02	07/24/00	0.350	
H3-TA08RS32-0-EM03	06/07/00	0.199	
H3-TA08RS32-0-EM03	06/09/00	0.224	
H3-TA08RS32-0-EM03	06/19/00	0.095	
H3-TA08RS32-0-EM03	06/21/00	0.246	
H3-TA08RS32-0-EM03	07/12/00	0.315	
H3-TA08RS32-0-EM03	07/31/00	0.436	
H3-TA08RS32-0-EM03	08/02/00	0.434	
H3-TA08RS32-0-EM03	08/02/00	0.465	
H3-TA08RS32-0-EM03	08/10/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM04	06/08/00	0.135	
H3-TA08RS32-0-EM04	07/18/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM04	07/31/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM04	07/31/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM04	08/10/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM04	08/10/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM05	06/07/00	0.167	
H3-TA08RS32-0-EM05	06/08/00	0.142	
H3-TA08RS32-0-EM05	06/09/00	0.137	
H3-TA08RS32-0-EM05	06/19/00	0.208	
H3-TA08RS32-0-EM05	06/19/00	0.179	
H3-TA08RS32-0-EM05	07/05/00	0.205	
H3-TA08RS32-0-EM05	07/18/00		too decomposed or eaten to weigh
H3-TA08RS32-0-EM05	07/19/00	0.637	
H3-TA08RS32-0-EM05	07/21/00	0.707	
H3-TA08RS32-0-EM05	07/21/00	0.515	
H3-TA08RS32-0-EM05	07/31/00	0.242	
H3-TA08RS32-0-EM05	08/02/00	0.206	
H3-TA08RS32-0-EM05	08/15/00		too decomposed or eaten to weigh

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.069 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM01	07/05/00	0.211	
H9-TAWLRS41-0-EM01	07/05/00	0.158	
H9-TAWLRS41-0-EM01	07/05/00	0.184	
H9-TAWLRS41-0-EM01	07/13/00	0.251	
H9-TAWLRS41-0-EM01	07/13/00	0.237	
H9-TAWLRS41-0-EM01	07/19/00	0.182	
H9-TAWLRS41-0-EM01	07/28/00	0.192	
H9-TAWLRS41-0-EM01	07/28/00	0.232	
H9-TAWLRS41-0-EM01	07/31/00	0.391	
H9-TAWLRS41-0-EM01	08/02/00	0.215	
H9-TAWLRS41-0-EM01	08/04/00	0.176	
H9-TAWLRS41-0-EM02	06/26/00	0.216	
H9-TAWLRS41-0-EM02	07/03/00	0.288	
H9-TAWLRS41-0-EM02	07/03/00	0.237	
H9-TAWLRS41-0-EM02	07/05/00	0.214	
H9-TAWLRS41-0-EM02	07/06/00	0.194	
H9-TAWLRS41-0-EM02	07/06/00	0.301	
H9-TAWLRS41-0-EM02	07/11/00	0.251	
H9-TAWLRS41-0-EM02	07/13/00	0.265	
H9-TAWLRS41-0-EM02	07/20/00	0.265	
H9-TAWLRS41-0-EM02	07/25/00	0.202	
H9-TAWLRS41-0-EM02	07/25/00	0.277	
H9-TAWLRS41-0-EM02	07/27/00	0.292	
H9-TAWLRS41-0-EM02	07/27/00	0.328	
H9-TAWLRS41-0-EM02	07/31/00	0.191	
H9-TAWLRS41-0-EM02	07/31/00	0.402	
H9-TAWLRS41-0-EM02	08/02/00	0.204	
H9-TAWLRS41-0-EM02	08/02/00	0.384	
H9-TAWLRS41-0-EM02	08/10/00	0.175	
H9-TAWLRS41-0-EM02	08/10/00	0.215	
H9-TAWLRS41-0-EM02	08/17/00	0.178	
H9-TAWLRS41-0-EM02	08/21/00	0.290	
H9-TAWLRS41-0-EM02	08/21/00	0.329	
H9-TAWLRS41-0-EM02	08/23/00	0.198	
H9-TAWLRS41-0-EM02	09/07/00	0.270	
H9-TAWLRS41-0-EM03	06/06/00	0.184	
H9-TAWLRS41-0-EM03	06/26/00	0.215	
H9-TAWLRS41-0-EM03	06/26/00	0.130	
H9-TAWLRS41-0-EM03	07/03/00	0.283	
H9-TAWLRS41-0-EM03	07/03/00	0.237	
H9-TAWLRS41-0-EM03	07/06/00	0.269	
H9-TAWLRS41-0-EM03	07/11/00	0.311	
H9-TAWLRS41-0-EM03	07/13/00	0.266	
H9-TAWLRS41-0-EM03	07/17/00	0.244	
H9-TAWLRS41-0-EM03	07/17/00	0.231	
H9-TAWLRS41-0-EM03	07/25/00	0.239	
H9-TAWLRS41-0-EM03	07/31/00	0.330	
H9-TAWLRS41-0-EM03	07/31/00	0.182	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.069 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM03	08/02/00	0.276	
H9-TAWLRS41-0-EM03	08/03/00	0.336	
H9-TAWLRS41-0-EM03	08/04/00	0.306	
H9-TAWLRS41-0-EM03	08/04/00	0.337	
H9-TAWLRS41-0-EM03	08/04/00	0.303	
H9-TAWLRS41-0-EM03	08/04/00	0.230	
H9-TAWLRS41-0-EM03	08/04/00	0.302	
H9-TAWLRS41-0-EM03	08/15/00	0.340	
H9-TAWLRS41-0-EM03	08/15/00	0.286	
H9-TAWLRS41-0-EM03	08/15/00	0.240	
H9-TAWLRS41-0-EM03	08/15/00	0.266	
H9-TAWLRS41-0-EM03	08/16/00	0.289	
H9-TAWLRS41-0-EM03	08/16/00	0.292	
H9-TAWLRS41-0-EM03	08/16/00	0.398	
H9-TAWLRS41-0-EM03	08/21/00	0.272	
H9-TAWLRS41-0-EM03	08/28/00	0.858	
H9-TAWLRS41-0-EM03	09/01/00	0.301	
H9-TAWLRS41-0-EM03	09/01/00	0.371	
H9-TAWLRS41-0-EM03	09/07/00	0.467	
H9-TAWLRS41-0-EM04	06/07/00	0.230	
H9-TAWLRS41-0-EM04	06/19/00	0.234	
H9-TAWLRS41-0-EM04	06/19/00	0.173	
H9-TAWLRS41-0-EM04	06/22/00	0.250	
H9-TAWLRS41-0-EM04	06/22/00	0.217	
H9-TAWLRS41-0-EM04	06/22/00	0.311	
H9-TAWLRS41-0-EM04	06/27/00	0.305	
H9-TAWLRS41-0-EM04	06/27/00	0.264	
H9-TAWLRS41-0-EM04	07/03/00	0.247	
H9-TAWLRS41-0-EM04	07/03/00	0.183	
H9-TAWLRS41-0-EM04	07/03/00	0.264	
H9-TAWLRS41-0-EM04	07/05/00	0.289	
H9-TAWLRS41-0-EM04	07/05/00	0.213	
H9-TAWLRS41-0-EM04	07/06/00	0.264	
H9-TAWLRS41-0-EM04	07/11/00	0.220	
H9-TAWLRS41-0-EM04	07/13/00	0.170	
H9-TAWLRS41-0-EM04	07/13/00	0.239	
H9-TAWLRS41-0-EM04	07/13/00	0.195	
H9-TAWLRS41-0-EM04	07/13/00	0.171	
H9-TAWLRS41-0-EM04	07/17/00	0.231	edema
H9-TAWLRS41-0-EM04	07/17/00	0.238	
H9-TAWLRS41-0-EM04	07/17/00	0.210	
H9-TAWLRS41-0-EM04	07/17/00	0.219	
H9-TAWLRS41-0-EM04	07/19/00	0.239	
H9-TAWLRS41-0-EM04	07/27/00	0.215	
H9-TAWLRS41-0-EM04	07/27/00	0.188	
H9-TAWLRS41-0-EM04	07/31/00	0.161	
H9-TAWLRS41-0-EM04	07/31/00	0.216	
H9-TAWLRS41-0-EM04	07/31/00		too decomposed or eaten to weigh

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.069 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM04	08/02/00	0.223	
H9-TAWLRS41-0-EM04	08/02/00	0.303	
H9-TAWLRS41-0-EM04	08/02/00	0.276	
H9-TAWLRS41-0-EM04	08/04/00	0.218	
H9-TAWLRS41-0-EM04	08/04/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/10/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/15/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/16/00	0.209	
H9-TAWLRS41-0-EM04	08/21/00	0.653	
H9-TAWLRS41-0-EM05	07/03/00	0.191	
H9-TAWLRS41-0-EM05	08/15/00	0.264	
H9-TAWLRS41-0-EM05	08/17/00	0.277	
H9-TAWLRS41-0-EM05	08/21/00	0.246	
H9-TAWLRS41-0-EM05	08/21/00	0.725	
H9-TAWLRS41-1-EM05	06/06/00	0.216	
H9-TAWLRS41-1-EM05	06/13/00	0.252	
H9-TAWLRS41-1-EM05	06/29/00	0.295	
H9-TAWLRS41-1-EM05	07/03/00	0.219	
H9-TAWLRS41-1-EM05	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS41-1-EM05	07/05/00	0.297	
H9-TAWLRS41-1-EM05	07/05/00	0.341	
H9-TAWLRS41-1-EM05	07/05/00	0.264	
H9-TAWLRS41-1-EM05	07/05/00	0.340	
H9-TAWLRS41-1-EM05	07/11/00	0.235	
H9-TAWLRS41-1-EM05	07/13/00	0.219	
H9-TAWLRS41-1-EM05	07/13/00	0.377	
H9-TAWLRS41-1-EM05	07/17/00	0.292	
H9-TAWLRS41-1-EM05	07/27/00	0.438	
H9-TAWLRS41-1-EM05	07/27/00	0.296	
H9-TAWLRS41-1-EM05	07/27/00	0.226	
H9-TAWLRS41-1-EM05	07/31/00	0.216	
H9-TAWLRS41-1-EM05	08/02/00	0.237	
H9-TAWLRS41-1-EM05	08/02/00	0.422	
H9-TAWLRS41-1-EM05	08/02/00	0.283	
H9-TAWLRS41-1-EM05	08/04/00	0.222	
H9-TAWLRS41-1-EM05	08/04/00	0.277	
H9-TAWLRS41-1-EM05	08/04/00	0.262	
H9-TAWLRS41-1-EM05	08/04/00	0.491	
H9-TAWLRS41-1-EM05	08/10/00	0.221	
H9-TAWLRS41-1-EM05	08/15/00	0.322	
H9-TAWLRS41-1-EM05	08/23/00	0.416	
H9-TAWLRS41-1-EM05	08/29/00	0.358	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2), 0.13 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42-0-EM01	06/13/00	0.240	
H9-TAWLRS42-0-EM01	06/13/00	0.216	
H9-TAWLRS42-0-EM01	06/26/00	0.241	
H9-TAWLRS42-0-EM01	06/26/00	0.371	
H9-TAWLRS42-0-EM01	06/26/00	0.312	
H9-TAWLRS42-0-EM01	06/26/00	0.375	
H9-TAWLRS42-0-EM01	06/27/00	0.352	
H9-TAWLRS42-0-EM01	07/05/00	0.204	
H9-TAWLRS42-0-EM01	07/05/00	0.155	
H9-TAWLRS42-0-EM01	07/13/00	0.274	
H9-TAWLRS42-0-EM02	06/09/00	0.185	facial
H9-TAWLRS42-0-EM02	06/13/00	0.279	
H9-TAWLRS42-0-EM02	06/19/00	0.313	
H9-TAWLRS42-0-EM02	06/19/00	0.298	
H9-TAWLRS42-0-EM02	06/19/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM02	07/03/00	0.228	
H9-TAWLRS42-0-EM02	07/05/00	0.209	
H9-TAWLRS42-0-EM02	07/06/00	0.190	
H9-TAWLRS42-0-EM02	07/13/00	0.260	
H9-TAWLRS42-0-EM02	07/13/00	0.204	
H9-TAWLRS42-0-EM02	08/02/00	0.205	
H9-TAWLRS42-0-EM02	08/04/00	0.237	
H9-TAWLRS42-0-EM02	08/04/00	0.288	
H9-TAWLRS42-0-EM02	08/04/00	0.431	
H9-TAWLRS42-0-EM02	08/10/00	0.221	
H9-TAWLRS42-0-EM02	08/17/00	0.239	
H9-TAWLRS42-0-EM02	08/23/00	0.212	
H9-TAWLRS42-0-EM02	08/23/00	0.288	
H9-TAWLRS42-0-EM03	06/22/00	0.282	
H9-TAWLRS42-0-EM03	06/29/00	0.256	
H9-TAWLRS42-0-EM03	07/11/00	0.221	
H9-TAWLRS42-0-EM03	07/25/00	0.188	
H9-TAWLRS42-0-EM03	08/04/00	0.309	
H9-TAWLRS42-0-EM03	08/04/00	0.396	
H9-TAWLRS42-0-EM03	08/10/00	0.391	
H9-TAWLRS42-0-EM04	06/06/00	0.299	
H9-TAWLRS42-0-EM04	06/06/00	0.319	
H9-TAWLRS42-0-EM04	06/08/00	0.303	
H9-TAWLRS42-0-EM04	06/08/00	0.300	
H9-TAWLRS42-0-EM04	07/06/00	0.118	
H9-TAWLRS42-0-EM04	07/13/00	0.225	
H9-TAWLRS42-0-EM04	07/13/00	0.228	
H9-TAWLRS42-0-EM04	07/25/00	0.231	
H9-TAWLRS42-0-EM04	08/02/00	0.216	
H9-TAWLRS42-0-EM05	06/08/00	0.161	
H9-TAWLRS42-0-EM05	06/08/00	0.178	
H9-TAWLRS42-0-EM05	06/19/00	0.337	
H9-TAWLRS42-0-EM05	06/19/00	0.293	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2), 0.13 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42-0-EM05	06/21/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM05	06/22/00	0.217	
H9-TAWLRS42-0-EM05	06/26/00	0.216	
H9-TAWLRS42-0-EM05	06/26/00	0.281	
H9-TAWLRS42-0-EM05	06/26/00	0.350	
H9-TAWLRS42-0-EM05	07/03/00	0.274	
H9-TAWLRS42-0-EM05	07/03/00	0.260	
H9-TAWLRS42-0-EM05	07/05/00	0.244	
H9-TAWLRS42-0-EM05	07/05/00	0.322	
H9-TAWLRS42-0-EM05	07/06/00	0.270	
H9-TAWLRS42-0-EM05	07/11/00	0.593	
H9-TAWLRS42-0-EM05	07/13/00	0.285	
H9-TAWLRS42-0-EM05	07/19/00	0.310	
H9-TAWLRS42-0-EM05	07/25/00	0.279	
H9-TAWLRS42-0-EM05	07/27/00	0.368	
H9-TAWLRS42-0-EM05	07/27/00	0.254	
H9-TAWLRS42-0-EM05	07/27/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM05	08/10/00	0.392	
H9-TAWLRS42-1-EM05	06/01/00	0.133	
H9-TAWLRS42-1-EM05	06/06/00	0.292	
H9-TAWLRS42-1-EM05	06/07/00	0.320	
H9-TAWLRS42-1-EM05	06/28/00	0.151	eye (edema)
H9-TAWLRS42-1-EM05	06/29/00	0.210	
H9-TAWLRS42-1-EM05	07/05/00	0.261	
H9-TAWLRS42-1-EM05	07/11/00	0.134	
H9-TAWLRS42-1-EM05	07/13/00	0.182	
H9-TAWLRS42-1-EM05	07/13/00	0.242	
H9-TAWLRS42-1-EM05	07/25/00	0.273	
H9-TAWLRS42-1-EM05	08/17/00	0.546	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), 0.11 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43-0-EM01	06/05/00	0.741	
H9-TAWLRS43-0-EM01	06/05/00	0.714	
H9-TAWLRS43-0-EM01	06/06/00	0.518	
H9-TAWLRS43-0-EM01	06/22/00	0.257	
H9-TAWLRS43-0-EM01	07/03/00	0.315	
H9-TAWLRS43-0-EM01	07/03/00	0.270	
H9-TAWLRS43-0-EM01	07/03/00	0.197	
H9-TAWLRS43-0-EM01	07/03/00	0.208	
H9-TAWLRS43-0-EM01	07/07/00	0.222	
H9-TAWLRS43-0-EM01	07/07/00	0.308	
H9-TAWLRS43-0-EM01	07/11/00	0.345	
H9-TAWLRS43-0-EM01	07/11/00	0.200	
H9-TAWLRS43-0-EM01	07/11/00	0.308	
H9-TAWLRS43-0-EM01	07/11/00	0.280	
H9-TAWLRS43-0-EM01	07/11/00	0.309	
H9-TAWLRS43-0-EM01	07/17/00	0.351	
H9-TAWLRS43-0-EM01	07/25/00	0.350	
H9-TAWLRS43-0-EM01	08/04/00	0.413	
H9-TAWLRS43-0-EM01	08/10/00	0.401	
H9-TAWLRS43-0-EM01	08/10/00	0.251	
H9-TAWLRS43-0-EM02	06/05/00	0.853	
H9-TAWLRS43-0-EM02	06/19/00	0.212	
H9-TAWLRS43-0-EM02	06/19/00	0.243	
H9-TAWLRS43-0-EM02	06/19/00	0.193	
H9-TAWLRS43-0-EM02	06/19/00	0.184	
H9-TAWLRS43-0-EM02	06/19/00	0.180	
H9-TAWLRS43-0-EM02	06/19/00	0.150	
H9-TAWLRS43-0-EM02	06/19/00	0.214	
H9-TAWLRS43-0-EM02	06/19/00	0.173	
H9-TAWLRS43-0-EM02	06/19/00	0.171	
H9-TAWLRS43-0-EM02	06/21/00	0.122	
H9-TAWLRS43-0-EM02	06/21/00	0.195	
H9-TAWLRS43-0-EM02	06/21/00	0.146	
H9-TAWLRS43-0-EM02	06/21/00	0.185	
H9-TAWLRS43-0-EM02	06/22/00	0.280	
H9-TAWLRS43-0-EM02	06/22/00	0.331	
H9-TAWLRS43-0-EM02	06/26/00	0.260	
H9-TAWLRS43-0-EM02	06/27/00	0.185	
H9-TAWLRS43-0-EM02	06/27/00	0.253	
H9-TAWLRS43-0-EM02	07/05/00	0.251	
H9-TAWLRS43-0-EM02	07/05/00	0.403	
H9-TAWLRS43-0-EM02	07/05/00	0.307	
H9-TAWLRS43-0-EM02	07/11/00	0.381	
H9-TAWLRS43-0-EM02	07/11/00	0.176	
H9-TAWLRS43-0-EM02	07/11/00	0.200	
H9-TAWLRS43-0-EM02	07/17/00	0.314	
H9-TAWLRS43-0-EM02	07/17/00	0.202	
H9-TAWLRS43-0-EM02	07/19/00	0.236	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), 0.11 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43-0-EM02	07/19/00	0.437	
H9-TAWLRS43-0-EM02	07/25/00	0.368	
H9-TAWLRS43-0-EM02	07/27/00	0.357	
H9-TAWLRS43-0-EM02	08/04/00	0.296	
H9-TAWLRS43-0-EM03	06/15/00	0.285	
H9-TAWLRS43-0-EM03	06/22/00	0.359	
H9-TAWLRS43-0-EM03	06/26/00	0.137	
H9-TAWLRS43-0-EM03	06/26/00	0.080	
H9-TAWLRS43-0-EM03	06/29/00	0.163	
H9-TAWLRS43-0-EM03	07/03/00	0.275	
H9-TAWLRS43-0-EM03	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS43-0-EM03	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS43-0-EM03	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS43-0-EM03	07/05/00	0.317	
H9-TAWLRS43-0-EM03	07/05/00	0.448	
H9-TAWLRS43-0-EM03	07/05/00	0.457	
H9-TAWLRS43-0-EM03	07/07/00	0.358	
H9-TAWLRS43-0-EM03	07/07/00	0.246	
H9-TAWLRS43-0-EM03	07/11/00	0.246	
H9-TAWLRS43-0-EM03	07/13/00	0.439	
H9-TAWLRS43-0-EM03	07/13/00	0.523	
H9-TAWLRS43-0-EM03	07/13/00	0.392	
H9-TAWLRS43-0-EM03	07/13/00	0.201	
H9-TAWLRS43-0-EM03	07/17/00	0.339	edema
H9-TAWLRS43-0-EM03	07/19/00	0.300	
H9-TAWLRS43-0-EM03	07/19/00	0.598	
H9-TAWLRS43-0-EM03	07/19/00	0.308	
H9-TAWLRS43-0-EM03	07/19/00	0.464	
H9-TAWLRS43-0-EM03	07/25/00	0.284	
H9-TAWLRS43-0-EM03	07/25/00	0.602	
H9-TAWLRS43-0-EM03	07/25/00	0.513	
H9-TAWLRS43-0-EM03	07/25/00	0.500	
H9-TAWLRS43-0-EM03	07/27/00	0.252	
H9-TAWLRS43-0-EM03	07/31/00	0.309	
H9-TAWLRS43-0-EM03	08/02/00	0.541	
H9-TAWLRS43-0-EM03	08/02/00	0.472	
H9-TAWLRS43-0-EM03	08/02/00		too decomposed or eaten to weigh
H9-TAWLRS43-0-EM04	06/06/00	0.290	
H9-TAWLRS43-0-EM04	06/08/00	0.445	
H9-TAWLRS43-0-EM04	06/15/00	0.219	
H9-TAWLRS43-0-EM04	06/21/00	0.201	
H9-TAWLRS43-0-EM04	06/21/00	0.185	
H9-TAWLRS43-0-EM04	06/21/00	0.170	
H9-TAWLRS43-0-EM04	07/03/00	0.393	
H9-TAWLRS43-0-EM04	07/03/00	0.353	
H9-TAWLRS43-0-EM04	07/03/00	0.394	
H9-TAWLRS43-0-EM04	07/05/00	0.536	
H9-TAWLRS43-0-EM04	07/07/00	0.287	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), 0.11 mg/kg SEDIMENT PCB CONCENTRATION**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43-0-EM04	07/07/00	0.355	
H9-TAWLRS43-0-EM04	07/07/00	0.354	
H9-TAWLRS43-0-EM04	07/13/00	0.274	
H9-TAWLRS43-0-EM04	07/25/00	0.238	
H9-TAWLRS43-0-EM04	07/25/00	0.149	
H9-TAWLRS43-0-EM04	07/25/00	0.383	
H9-TAWLRS43-0-EM04	07/27/00	0.201	
H9-TAWLRS43-0-EM04	07/27/00	0.316	
H9-TAWLRS43-0-EM04	07/27/00	0.217	
H9-TAWLRS43-0-EM04	07/27/00	0.309	
H9-TAWLRS43-0-EM04	07/27/00	0.199	
H9-TAWLRS43-0-EM04	08/10/00	0.336	
H9-TAWLRS43-0-EM04	08/17/00	0.713	
H9-TAWLRS43-0-EM05	06/06/00	0.311	
H9-TAWLRS43-0-EM05	06/08/00	0.457	
H9-TAWLRS43-0-EM05	06/15/00	0.836	
H9-TAWLRS43-0-EM05	06/19/00	0.349	
H9-TAWLRS43-0-EM05	06/22/00	0.341	
H9-TAWLRS43-0-EM05	06/26/00	0.451	
H9-TAWLRS43-0-EM05	06/26/00	0.268	
H9-TAWLRS43-0-EM05	06/28/00	0.268	
H9-TAWLRS43-0-EM05	06/28/00	0.315	
H9-TAWLRS43-0-EM05	07/03/00	0.554	
H9-TAWLRS43-0-EM05	07/05/00	0.681	
H9-TAWLRS43-0-EM05	07/11/00	0.365	
H9-TAWLRS43-0-EM05	07/17/00	0.389	
H9-TAWLRS43-0-EM05	07/19/00	0.329	
H9-TAWLRS43-1-EM05	06/19/00	0.178	
H9-TAWLRS43-1-EM05	06/19/00	0.180	
H9-TAWLRS43-1-EM05	06/21/00	0.337	
H9-TAWLRS43-1-EM05	06/21/00	0.252	
H9-TAWLRS43-1-EM05	06/21/00	0.152	
H9-TAWLRS43-1-EM05	06/21/00	0.318	
H9-TAWLRS43-1-EM05	06/22/00	0.442	
H9-TAWLRS43-1-EM05	06/26/00	0.286	
H9-TAWLRS43-1-EM05	06/26/00	0.234	
H9-TAWLRS43-1-EM05	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS43-1-EM05	07/05/00	0.380	
H9-TAWLRS43-1-EM05	07/05/00	0.292	
H9-TAWLRS43-1-EM05	07/05/00	0.352	
H9-TAWLRS43-1-EM05	07/05/00	0.303	
H9-TAWLRS43-1-EM05	07/05/00	0.285	
H9-TAWLRS43-1-EM05	07/07/00	0.373	
H9-TAWLRS43-1-EM05	07/07/00	0.390	
H9-TAWLRS43-1-EM05	07/07/00	0.334	
H9-TAWLRS43-1-EM05	07/07/00		too decomposed or eaten to weigh
H9-TAWLRS43-1-EM05	07/11/00	0.341	
H9-TAWLRS43-1-EM05	07/13/00	0.314	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), 0.11 mg/kg SEDIMENT PCB CONCENTRATION

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43-1-EM05	07/13/00	0.256	
H9-TAWLRS43-1-EM05	07/13/00	0.302	
H9-TAWLRS43-1-EM05	07/13/00		too decomposed or eaten to weigh
H9-TAWLRS43-1-EM05	07/13/00		too decomposed or eaten to weigh
H9-TAWLRS43-1-EM05	07/17/00		too decomposed or eaten to weigh
H9-TAWLRS43-1-EM05	07/19/00	0.704	
H9-TAWLRS43-1-EM05	07/20/00	0.376	
H9-TAWLRS43-1-EM05	08/02/00	0.740	

Phase I Crossover Study

Raw Data:
Mortality/Metamorphosis
Larval Stage/Malformations
Larval Growth
Metamorph Weight/Abnormality
Hypothesis Testing Tables

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
COMBINED DATA SUMMARY FOR FIGURES

38-VP-2 Larvae in WML-2 Water/Sediment (N=10)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	-	0.00	0.00	0.00	0.00
6	16	2.80	1.34	0.00	0.00
42	27	8.40	2.34	0.00	0.00
69	29	18.80	4.81	4.00	1.03
100	42	44.00	4.70	22.40	4.22
132	42	65.20	4.88	30.00	5.07
142	42	69.20	4.74	30.00	5.07

38-VP-1 Larvae in WML-1 Water/Sediment (N=10)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	-	0.00	0.00	0.00	0.00
6	23	6.00	1.81	0.00	0.00
42	28	8.80	2.56	0.00	0.00
69	40	20.00	4.46	2.40	1.22
100	42	46.40	7.26	26.80	3.48
132	44	67.20	2.97	32.00	3.04

WML-1 Larvae in 38-VP-1 Water/Sediment (N=8)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	-	0.00	0.00	0.00	0.00
2	24	3.00	1.46	0.00	0.00
32	28	11.18	3.23	0.00	0.00
60	34	46.26	11.93	11.24	3.30
91	39	63.26	10.58	28.74	7.35
101	39	64.26	10.30	32.74	8.79

WML-2 Larvae in 38-VP-2 Water/Sediment (N=10)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	-	0.00	0.00	0.00	0.00
2	23	12.00	1.98	0.00	0.00
32	30	14.80	2.53	0.00	0.00
60	44	22.40	2.75	1.20	0.61
91	46	55.20	3.90	16.00	4.00
122	40	79.60	3.18	19.20	3.57

WML-1 Larvae/Water/Sediment (N=6)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	17	0.00	0.00	0.00	0.00
11	24	1.33	0.60	0.00	0.00
47	30	16.17	3.90	0.00	0.00
74	34	20.33	4.30	2.00	0.90
105	38	40.00	3.80	12.50	3.40
137	42	68.17	4.50	22.17	5.00
147	41	74.83	5.60	23.00	5.20

WML-2 Larvae/Water/Sediment (N=6)					
DAY	STAGE	CUMUL. % MORT	SEM	CUMUL. % METAM	SEM
0	17	0.00	0.00	0.00	0.00
11	24	4.33	1.60	0.00	0.00
47	34	34.50	6.80	0.00	0.00
74	40	46.33	8.70	4.67	1.10
105	42	71.83	4.60	10.50	2.30
137	44	84.17	3.10	12.83	2.40
147	44	86.33	2.80	12.83	2.40

Comments: 1. % mortality and % metamorphosis are based on total number of dead and metamorphosed larvae on a given study day divided by the initial number of larvae at beginning of study.
 2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given site on a given study day.
 In some cases, stage decreases during the latter part of the study due to metamorphosis and/or death.

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 15				Replicate Tub 16				Replicate Tub 17				Replicate Tub 18			
		DAILY NUMBER	DAILY CUMULATIVE	DAILY NO.	CUMUL. %	DAILY NUMBER	DAILY CUMULATIVE	DAILY NO.	CUMUL. %	DAILY NUMBER	DAILY CUMULATIVE	DAILY NO.	CUMUL. %	DAILY NUMBER	DAILY CUMULATIVE	DAILY NO.	CUMUL. %
4/18/2000	0	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00
4/19/2000	1	0	0	25	0.00	0	0	25	0.00	0	1	24	0.00	0	0	25	0.00
4/20/2000	2	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/21/2000	3	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/22/2000	4	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/23/2000	5	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/24/2000	6	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/25/2000	7	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/26/2000	8	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/27/2000	9	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
4/28/2000	10	0	0	25	0.00	0	0	25	0.00	0	2	23	8.00	0	0	25	0.00
5/1/2000	13	0	0	25	0.00	1	1	24	4.00	0	2	23	8.00	0	0	25	0.00
5/2/2000	14	0	0	25	0.00	0	1	24	4.00	0	2	23	8.00	0	0	25	0.00
5/3/2000	15	0	0	25	0.00	0	1	24	4.00	0	2	23	8.00	0	0	25	0.00
5/4/2000	16	0	0	25	0.00	0	1	24	4.00	0	2	23	8.00	0	0	25	0.00
5/5/2000	17	0	0	25	0.00	0	1	24	4.00	0	2	23	8.00	0	0	25	0.00
5/6/2000	20	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/9/2000	21	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/10/2000	22	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/11/2000	23	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/12/2000	24	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/16/2000	28	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/17/2000	29	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/18/2000	30	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/19/2000	31	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/22/2000	34	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/23/2000	35	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/24/2000	36	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/26/2000	38	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
5/30/2000	42	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
6/12/2000	44	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
6/16/2000	49	0	0	25	0.00	0	6	19	24.00	0	2	23	8.00	0	1	24	4.00
6/17/2000	50	0	0	25	0.00	0	8	17	32.00	0	2	23	8.00	0	1	24	4.00
6/19/2000	52	0	0	25	0.00	0	8	17	32.00	0	2	23	8.00	0	1	24	4.00
6/21/2000	54	0	0	25	0.00	0	8	17	32.00	0	2	23	8.00	0	1	24	4.00
6/22/2000	55	0	0	25	0.00	0	8	17	32.00	0	2	23	8.00	0	1	24	4.00
6/26/2000	69	0	0	25	0.00	0	9	16	36.00	0	2	23	8.00	0	1	24	4.00
6/28/2000	71	0	0	25	0.00	0	9	16	36.00	0	2	23	8.00	0	1	24	4.00
6/29/2000	72	0	0	25	0.00	0	9	16	36.00	0	2	23	8.00	0	1	24	4.00
7/3/2000	76	0	0	25	0.00	0	9	16	36.00	0	2	23	8.00	0	1	24	4.00
7/5/2000	78	0	2	23	8.00	0	10	15	40.00	0	2	23	8.00	0	1	24	4.00
7/6/2000	79	0	2	23	8.00	0	10	15	40.00	0	2	23	8.00	0	1	24	4.00
7/11/2000	84	3	5	20	20.00	0	10	15	40.00	0	2	23	8.00	0	1	24	4.00
7/12/2000	85	0	5	20	20.00	0	10	15	40.00	0	2	23	8.00	0	1	24	4.00
7/19/2000	90	2	7	18	28.00	0	12	13	48.00	0	2	23	8.00	0	1	24	4.00
7/19/2000	92	0	7	18	28.00	0	12	13	48.00	0	2	23	8.00	0	1	24	4.00
7/25/2000	98	1	8	17	32.00	0	13	12	52.00	0	2	23	8.00	0	1	24	4.00
7/27/2000	100	0	8	17	32.00	0	13	12	52.00	0	2	23	8.00	0	1	24	4.00
7/31/2000	104	1	9	16	36.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/2/2000	106	0	9	16	36.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/4/2000	108	0	9	16	36.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/10/2000	114	6	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/15/2000	119	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/17/2000	121	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/21/2000	125	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/23/2000	127	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/28/2000	132	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
8/30/2000	134	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
9/1/2000	136	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
9/5/2000	140	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
9/7/2000	142	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00
9/12/2000	147	0	15	10	60.00	0	16	9	64.00	0	2	23	8.00	0	1	24	4.00

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WNL-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 17			Replicate Tub 18			Replicate Tub 19			Replicate Tub 20			COMBINED REPLICATE METAMORPHOSIS STATISTICS			
		DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	MEAN OF % VAR (S2)	SEM	CV (%)	na
4/18/2000	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/19/2000	1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/20/2000	2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/21/2000	3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/24/2000	6	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/25/2000	7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/26/2000	8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/27/2000	9	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
4/28/2000	10	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/1/2000	13	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/2/2000	14	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/3/2000	15	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/4/2000	16	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/5/2000	17	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/6/2000	20	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/9/2000	21	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/10/2000	22	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/11/2000	23	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/12/2000	24	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/16/2000	28	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/17/2000	29	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/18/2000	30	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/19/2000	31	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/22/2000	34	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/23/2000	35	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/24/2000	36	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/26/2000	38	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
5/30/2000	42	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/1/2000	44	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/6/2000	49	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/7/2000	50	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/14/2000	57	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/16/2000	62	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/21/2000	64	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	na
6/22/2000	65	1	1	4.00	0	0	0.00	1	1	4.00	0	0	0.00	3.00	0.953	81.98	316.23
6/26/2000	69	1	2	8.00	0	0	0.00	2	2	8.00	0	0	0.00	6.71	1.033	81.65	210.92
6/28/2000	71	1	3	12.00	0	0	0.00	3	3	12.00	0	0	0.00	5.20	1.467	89.19	161.02
6/29/2000	72	1	4	16.00	0	0	0.00	4	4	16.00	0	0	0.00	5.20	1.467	95.58	129.10
7/3/2000	76	0	4	16.00	0	2	8.00	0	3	12.00	0	0	0.00	6.00	32.89	1.814	105.41
7/5/2000	78	0	4	16.00	0	2	8.00	0	4	16.00	0	0	0.00	6.80	46.40	2.154	100.17
7/6/2000	79	0	4	16.00	0	2	8.00	0	5	20.00	0	0	0.00	10.00	50.67	2.251	71.18
7/11/2000	84	0	4	16.00	0	2	8.00	0	6	24.00	0	0	0.00	10.80	74.84	2.736	80.10
7/12/2000	85	0	4	16.00	0	2	8.00	0	6	24.00	0	0	0.00	13.20	64.18	2.533	60.69
7/12/2000	86	0	4	16.00	0	2	8.00	0	6	24.00	0	0	0.00	14.40	61.16	2.473	54.31
7/17/2000	90	2	6	24.00	0	3	12.00	0	6	24.00	0	0	0.00	17.60	103.82	3.222	57.89
7/19/2000	92	0	6	24.00	0	3	12.00	0	7	28.00	0	0	0.00	18.40	125.16	3.538	60.80
7/25/2000	98	0	6	24.00	0	5	20.00	0	7	28.00	0	0	0.00	20.80	177.07	4.208	63.97
7/27/2000	100	0	6	24.00	0	5	20.00	0	7	28.00	0	0	0.00	22.40	178.49	4.225	59.64
8/2/2000	106	0	6	24.00	0	5	20.00	0	7	28.00	0	0	0.00	23.60	197.16	4.440	59.50
8/4/2000	108	0	6	24.00	0	6	24.00	0	8	32.00	0	0	0.00	25.60	214.04	4.626	57.15
8/10/2000	114	0	6	24.00	0	6	24.00	0	9	36.00	0	0	0.00	28.00	273.78	5.232	59.09
8/15/2000	119	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	28.00	273.78	5.232	59.09
8/17/2000	121	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	29.20	270.40	5.200	56.31
8/21/2000	125	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	29.60	278.04	5.273	56.33
8/23/2000	127	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
8/28/2000	132	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
8/30/2000	134	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
9/1/2000	136	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
9/5/2000	140	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
9/7/2000	142	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43
9/12/2000	147	0	6	24.00	0	6	24.00	0	10	40.00	0	0	0.00	30.00	256.89	5.068	53.43

Note: Although egg masses were not observed for the same number of days, cumulative % mortality and metamorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

DATE	DAY	Replicate 5				Replicate 6				Replicate 7				Replicate 8							
		DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	UNUL % DEAD
4/18/2000	0	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00
4/19/2000	1	1	1	24		4.00	2	2	23		8.00	0	0	23		8.00	3	3	22		12.00
4/20/2000	2	0	1	24		4.00	0	2	23		8.00	0	0	23		8.00	0	3	22		12.00
4/21/2000	3	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
4/24/2000	6	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
4/25/2000	7	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
4/26/2000	8	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
4/27/2000	9	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
4/28/2000	10	0	1	24		4.00	0	2	23		8.00	0	0	25		8.00	0	3	22		12.00
5/1/2000	13	0	1	24		4.00	0	2	23		8.00	1	1	24		4.00	1	4	21		16.00
5/2/2000	14	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	4	21		16.00
5/3/2000	15	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	4	21		16.00
5/4/2000	16	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	4	21		16.00
5/5/2000	17	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	4	21		16.00
5/6/2000	21	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	2	6	19		24.00
5/9/2000	21	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/10/2000	22	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/11/2000	23	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/14/2000	26	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/16/2000	28	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/17/2000	29	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/18/2000	30	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/19/2000	31	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/22/2000	34	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/23/2000	35	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/24/2000	36	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/26/2000	38	0	1	24		4.00	0	2	23		8.00	0	1	24		4.00	0	6	19		24.00
5/30/2000	42	0	1	24		4.00	0	4	21		16.00	0	1	24		4.00	0	6	19		24.00
6/1/2000	44	0	1	24	1	4.00	0	4	21		16.00	0	1	24		4.00	0	6	19		24.00
6/6/2000	49	0	1	24		4.00	0	4	21		16.00	0	1	24		4.00	0	6	19		24.00
6/19/2000	50	0	1	24		4.00	0	4	21		16.00	0	1	24		4.00	0	6	19		24.00
6/22/2000	65	0	1	24		4.00	1	5	20		20.00	2	3	22		12.00	2	13	12		52.00
6/26/2000	69	0	1	24		4.00	1	6	19		24.00	1	4	21		16.00	0	13	12		52.00
6/27/2000	70	0	1	24		4.00	1	6	19		24.00	0	4	21		16.00	0	13	12	1	52.00
6/28/2000	72	0	1	24		4.00	1	7	18		28.00	0	5	20		20.00	0	13	12	1	52.00
7/3/2000	76	0	1	24		4.00	0	7	18		28.00	0	6	19		24.00	0	13	12	1	52.00
7/5/2000	78	0	1	24		4.00	0	8	17		32.00	0	6	19		24.00	0	13	12	1	52.00
7/6/2000	79	0	1	24		4.00	1	8	17		32.00	0	9	16		36.00	0	13	12	2	52.00
7/11/2000	84	1	2	23		8.00	0	15	10		60.00	3	9	16		36.00	0	13	12		52.00
7/12/2000	85	0	2	23	1	8.00	0	15	10		60.00	0	9	16		36.00	0	13	12		52.00
7/19/2000	92	0	3	22		12.00	0	16	9		64.00	2	11	14		44.00	2	15	10		60.00
7/19/2000	92	0	3	22		12.00	0	16	9		64.00	0	11	14		44.00	0	15	10		60.00
7/19/2000	98	0	3	22		12.00	0	18	7		72.00	0	12	13		48.00	0	16	9		64.00
7/27/2000	100	0	3	22		12.00	0	18	7		72.00	0	12	13		48.00	0	16	9		64.00
7/31/2000	104	0	3	22	2	12.00	0	18	7		72.00	0	12	13	1	48.00	1	17	8		68.00
8/2/2000	106	0	3	22		12.00	0	18	7		72.00	0	12	13		48.00	0	17	8		68.00
8/4/2000	108	1	4	21		16.00	0	18	7		72.00	0	12	13		48.00	0	17	8		68.00
8/10/2000	114	0	4	21		16.00	0	18	7		72.00	0	13	12		52.00	0	18	7		72.00
8/15/2000	119	0	4	21		16.00	0	18	7		72.00	0	13	12		52.00	0	18	7		72.00
8/17/2000	121	1	5	20	1	20.00	0	18	7		72.00	0	13	12	1	52.00	0	18	7		72.00
8/21/2000	125	0	5	20		20.00	0	18	7		72.00	0	14	11		56.00	0	18	7		72.00
8/23/2000	127	6	11	14		44.00	0	18	7		72.00	1	14	11		56.00	0	18	7		72.00
8/26/2000	132	9	20	5		80.00	0	18	7		72.00	0	14	11		56.00	0	18	7		72.00
8/29/2000	133	0	20	5		80.00	0	18	7		72.00	0	14	11		56.00	0	18	7		72.00
9/1/2000	136	0	20	5		80.00	0	18	7		72.00	0	14	11		56.00	0	18	7		72.00

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RAMA sylvatica MORTALITY/METAMORPH DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATERSEDIMENT

DATE	DAY	Replicate 1			Replicate 2			Replicate 3			Replicate 4			Replicate 5			Replicate 6		
		DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %
4/18/2000	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/19/2000	1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/20/2000	2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/21/2000	3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/24/2000	6	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/25/2000	7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/26/2000	8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/27/2000	9	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/28/2000	10	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/1/2000	13	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/2/2000	14	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/3/2000	15	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/4/2000	16	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/5/2000	17	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/6/2000	21	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/10/2000	22	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/11/2000	23	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/14/2000	26	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/16/2000	28	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/17/2000	29	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/18/2000	30	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/19/2000	31	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/22/2000	34	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/23/2000	35	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/24/2000	36	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/26/2000	38	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/30/2000	42	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/1/2000	44	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/6/2000	49	1	1	4.00	0	0	0.00	0	0	0.00	1	1	4.00	1	1	4.00	0	0	0.00
6/7/2000	50	0	1	4.00	0	0	0.00	0	0	0.00	0	1	4.00	0	1	4.00	0	0	0.00
6/19/2000	62	2	3	12.00	0	0	0.00	0	0	0.00	0	1	4.00	0	1	4.00	0	0	0.00
6/22/2000	65	0	3	12.00	0	0	0.00	0	0	0.00	0	1	4.00	0	1	4.00	0	0	0.00
6/26/2000	69	0	3	12.00	1	1	4.00	0	0	0.00	0	1	4.00	0	1	4.00	0	0	0.00
6/27/2000	70	1	4	16.00	0	1	4.00	0	0	0.00	0	1	4.00	0	1	4.00	1	1	4.00
6/29/2000	72	3	7	28.00	0	1	4.00	0	0	0.00	0	1	4.00	0	1	4.00	1	2	8.00
7/3/2000	76	0	7	28.00	0	1	4.00	0	0	0.00	1	2	8.00	0	1	4.00	1	3	12.00
7/5/2000	78	0	7	28.00	0	1	4.00	0	0	0.00	2	2	8.00	0	1	4.00	1	4	16.00
7/6/2000	79	0	7	28.00	0	1	4.00	0	0	0.00	5	7	28.00	0	1	4.00	4	16.00	16.00
7/11/2000	84	4	11	44.00	1	3	12.00	0	1	4.00	0	7	28.00	1	2	8.00	0	4	16.00
7/12/2000	85	0	11	44.00	1	4	16.00	0	1	4.00	0	7	28.00	0	2	8.00	0	4	16.00
7/17/2000	90	0	11	44.00	2	6	24.00	0	1	4.00	0	7	28.00	0	2	8.00	0	4	16.00
7/19/2000	92	0	11	44.00	0	6	24.00	0	1	4.00	0	7	28.00	0	2	8.00	0	4	16.00
7/25/2000	98	1	12	48.00	1	7	28.00	1	2	8.00	0	7	28.00	0	2	8.00	1	5	20.00
7/27/2000	100	0	12	48.00	0	7	28.00	3	5	20.00	2	9	36.00	0	2	8.00	1	6	24.00
7/31/2000	104	0	12	48.00	0	7	28.00	0	5	20.00	0	9	36.00	2	4	16.00	0	6	24.00
8/2/2000	106	0	12	48.00	0	7	28.00	0	5	20.00	0	9	36.00	0	4	16.00	1	7	28.00
8/4/2000	108	0	12	48.00	0	7	28.00	0	5	20.00	0	9	36.00	0	4	16.00	0	7	28.00
8/10/2000	114	0	12	48.00	0	7	28.00	0	6	24.00	0	9	36.00	0	4	16.00	0	7	28.00
8/15/2000	119	0	12	48.00	2	9	36.00	0	6	24.00	0	9	36.00	0	4	16.00	0	7	28.00
8/17/2000	121	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	1	5	20.00	0	7	28.00
8/21/2000	125	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	0	5	20.00	0	7	28.00
8/23/2000	127	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	0	5	20.00	0	7	28.00
8/28/2000	132	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	0	5	20.00	0	7	28.00
8/29/2000	133	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	0	5	20.00	0	7	28.00
9/1/2000	136	0	12	48.00	0	9	36.00	0	6	24.00	0	9	36.00	0	5	20.00	0	7	28.00

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

DATE	DAY	Replicate Tub 21				Replicate Tub 22				Replicate Tub 23				Replicate Tub 24							
		DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	CUMUL. % DEAD
4/24/2000	0	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00
4/25/2000	1	1	1	24		4.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
4/26/2000	2	2	3	22		12.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
4/27/2000	3	0	3	22		12.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/1/2000	7	1	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/2/2000	8	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/3/2000	9	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/4/2000	10	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/5/2000	11	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/9/2000	15	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/10/2000	16	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/11/2000	17	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/12/2000	18	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/16/2000	22	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/17/2000	23	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/18/2000	24	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/19/2000	25	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/23/2000	29	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/24/2000	30	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/26/2000	32	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
5/30/2000	36	0	4	21		16.00	0	0	25		0.00	0	1	24		4.00	0	0	25		0.00
6/1/2000	38	1	5	20		20.00	0	4	21		16.00	0	2	23		8.00	0	0	25		0.00
6/5/2000	42	0	5	20		20.00	0	4	21		16.00	0	2	23		8.00	0	0	25		0.00
6/6/2000	43	0	5	20		20.00	0	4	21		16.00	0	2	23		8.00	0	0	25		0.00
6/8/2000	45	0	5	20		20.00	0	4	21		16.00	0	2	23		8.00	0	0	25		0.00
6/14/2000	51	1	6	19		24.00	0	8	17		32.00	0	4	21		16.00	0	1	24		4.00
6/19/2000	56	5	11	14	3	44.00	0	25	0	0	100.00	0	4	21	3	16.00	0	1	24	1	4.00
6/21/2000	58	0	11	14	1	44.00	0	25	0	0	100.00	3	7	18	3	28.00	0	1	24	1	4.00
6/22/2000	59	0	11	14	1	44.00	0	25	0	0	100.00	0	7	18	1	28.00	0	2	23	2	8.00
6/23/2000	60	2	13	12		52.00	0	25	0	0	100.00	1	8	17	36.00	0	2	23	2	8.00	
6/26/2000	63	7	20	5		80.00	0	25	0	0	100.00	1	9	16	40.00	0	3	22	1	12.00	
6/28/2000	66	0	20	5		80.00	0	25	0	0	100.00	0	10	15	40.00	0	3	22	1	12.00	
7/3/2000	70	0	20	5		80.00	0	25	0	0	100.00	0	11	14	44.00	0	3	22	1	12.00	
7/5/2000	72	0	20	5		80.00	0	25	0	0	100.00	0	11	14	44.00	0	3	22	1	12.00	
7/6/2000	73	0	20	5		80.00	0	25	0	0	100.00	0	11	14	44.00	0	3	22	1	12.00	
7/11/2000	78	0	20	5		80.00	0	25	0	0	100.00	4	15	10	60.00	0	3	22	1	12.00	
7/13/2000	80	0	20	5		80.00	0	25	0	0	100.00	1	16	9	64.00	0	4	21	5	16.00	
7/18/2000	85	0	20	5		80.00	0	25	0	0	100.00	2	18	7	72.00	0	4	21	1	16.00	
7/19/2000	86	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
7/21/2000	88	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
7/24/2000	91	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
7/27/2000	94	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
7/31/2000	98	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	2	20.00	
8/2/2000	100	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
8/3/2000	101	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	1	16.00	
8/10/2000	108	0	20	5		80.00	0	25	0	0	100.00	0	18	7	72.00	0	4	21	16	36.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

DATE	DAY	COMBINED REPLICATE MORTALITY STATISTICS				CV (%)
		MEAN OF %	MORTALITY	SEM	CV (%)	
4/24/2000	0	0.00	0.00	0.000	na	
4/25/2000	1	1.50	4.29	0.732	138.01	
4/26/2000	2	3.00	17.14	1.464	138.01	
4/27/2000	3	3.50	15.71	1.402	113.26	
5/1/2000	7	4.74	25.03	1.769	105.66	
5/2/2000	8	4.74	25.03	1.769	105.66	
5/3/2000	9	4.74	25.03	1.769	105.66	
5/4/2000	10	4.74	25.03	1.769	105.66	
5/5/2000	11	4.74	25.03	1.769	105.66	
5/6/2000	12	6.74	26.24	1.811	76.06	
5/7/2000	13	6.74	26.24	1.811	76.06	
5/10/2000	16	7.47	29.13	1.908	72.25	
5/11/2000	17	7.47	27.17	1.843	65.39	
5/12/2000	18	7.97	34.49	2.076	63.79	
5/16/2000	22	9.21	34.49	2.076	63.79	
5/17/2000	23	9.21	34.49	2.076	63.79	
5/18/2000	24	9.21	34.49	2.076	63.79	
5/19/2000	25	9.21	34.49	2.076	63.79	
5/23/2000	29	9.21	39.68	2.227	64.90	
5/24/2000	30	9.71	83.68	3.234	81.85	
5/26/2000	32	11.18	162.27	4.504	100.72	
5/30/2000	36	12.65	279.62	5.912	114.40	
6/1/2000	38	14.62	765.20	9.780	117.56	
6/5/2000	42	23.53	878.27	10.478	122.14	
6/6/2000	43	24.26	857.12	10.351	118.22	
6/8/2000	45	24.76	1511.64	13.746	111.84	
6/14/2000	51	34.76	1366.88	13.071	91.82	
6/19/2000	56	40.26	1203.92	12.267	80.20	
6/21/2000	58	43.26	1172.46	12.106	77.36	
6/22/2000	59	44.26	1139.25	11.933	72.96	
6/23/2000	60	46.26	1144.76	11.962	64.74	
6/26/2000	63	52.26	1115.59	11.809	82.71	
6/29/2000	66	53.26	1102.43	11.739	61.76	
7/3/2000	70	53.76	1032.09	11.358	58.13	
7/5/2000	72	55.26	1032.09	11.358	58.13	
7/6/2000	73	55.26	983.96	11.090	52.93	
7/11/2000	78	59.26	941.60	10.849	50.09	
7/13/2000	80	61.26	894.68	10.575	47.28	
7/18/2000	85	63.26	894.68	10.575	47.28	
7/19/2000	86	63.26	894.68	10.575	47.28	
7/21/2000	88	63.26	894.68	10.575	47.28	
7/24/2000	91	63.26	894.68	10.575	47.28	
7/27/2000	94	63.26	894.68	10.575	47.28	
7/31/2000	98	63.76	842.66	10.263	45.52	
8/2/2000	100	63.76	842.66	10.263	45.52	
8/3/2000	101	64.26	849.50	10.305	45.35	
8/10/2000	108	66.26	678.15	9.214	38.33	

Note: Although egg masses were not observed for the same number of days, cumulative % mortality and metamorph values for the last day observed for each egg mass day to determine cumulative responses.

[illegible]

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 31				Replicate Tub 32				Replicate Tub 33				Replicate Tub 34			
		DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	
4/24/2000	0	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00	
4/25/2000	1	2	2	23		8.00	2	2	23		8.00	3	3	22		12.00	
4/26/2000	2	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
4/27/2000	3	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
4/28/2000	4	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/1/2000	7	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/2/2000	8	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/4/2000	10	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/5/2000	11	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/6/2000	14	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/10/2000	17	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/11/2000	17	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/12/2000	18	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/15/2000	21	0	2	23		8.00	0	2	18		28.00	0	3	22		12.00	
5/16/2000	22	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/17/2000	23	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/18/2000	24	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/19/2000	25	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/22/2000	28	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/23/2000	29	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/24/2000	30	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/26/2000	32	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
5/30/2000	36	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
6/1/2000	38	0	2	23		8.00	0	2	17		32.00	0	3	22		12.00	
6/5/2000	42	0	2	23		8.00	0	2	16		36.00	0	3	22		12.00	
6/6/2000	43	0	2	23		8.00	0	2	16		36.00	0	3	22		12.00	
6/14/2000	51	0	2	23		8.00	0	2	16		36.00	0	3	22		12.00	
6/19/2000	56	0	2	23		8.00	0	2	16		36.00	0	3	22		12.00	
6/22/2000	59	1	3	22		12.00	1	5	16		36.00	1	4	21		16.00	
6/23/2000	60	0	3	22	1	12.00	0	5	15		40.00	0	4	21	1	16.00	
6/27/2000	64	1	4	21		16.00	0	5	15		40.00	1	5	20		20.00	
6/29/2000	66	0	4	21		16.00	0	5	15		40.00	1	6	19	2	24.00	
7/3/2000	70	1	5	20		20.00	0	5	15		40.00	1	7	18		28.00	
7/5/2000	72	0	5	20		20.00	0	5	15		40.00	1	8	17		32.00	
7/6/2000	73	0	5	20		20.00	0	5	15		40.00	1	8	17		32.00	
7/11/2000	78	4	9	16	1	36.00	0	9	16		60.00	0	9	16		36.00	
7/13/2000	80	2	11	14	1	44.00	1	11	15		60.00	0	9	16		36.00	
7/16/2000	85	1	12	13	1	48.00	1	14	14		60.00	0	9	16		36.00	
7/19/2000	86	0	12	13		48.00	0	14	14	1	60.00	0	9	16		36.00	
7/21/2000	88	0	12	13		48.00	0	14	14	1	60.00	0	9	16		36.00	
7/24/2000	91	1	13	12		52.00	1	15	13	3	60.00	1	10	15	1	40.00	
7/27/2000	94	1	14	11	1	56.00	1	16	12		60.00	1	11	14		44.00	
7/31/2000	98	2	16	9		64.00	0	13	12		60.00	2	13	12	2	52.00	
8/2/2000	100	0	16	9		64.00	0	13	12		60.00	2	15	10		60.00	
8/3/2000	101	0	16	9		64.00	0	13	12		60.00	2	15	10		60.00	
8/10/2000	108	4	20	5		80.00	0	13	12		60.00	2	17	8		68.00	
8/14/2000	112	0	20	5		80.00	0	13	12		60.00	1	18	7		72.00	
8/16/2000	114	0	20	5		80.00	0	14	11		60.00	0	18	7		72.00	
8/21/2000	119	0	20	5		80.00	1	14	11		60.00	0	18	7		72.00	
8/23/2000	121	0	20	5		80.00	0	14	11		60.00	0	18	7		72.00	
8/24/2000	122	0	20	5		80.00	0	14	11		60.00	0	18	7		72.00	
8/28/2000	126	0	20	5		80.00	0	14	11		60.00	0	18	7		72.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATERSEDIMENT

DATE	DAY	Replicate Tub 35				Replicate Tub 36				Replicate Tub 37				Replicate Tub 38			
		DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY NUMBER ALIVE	DAILY NO. METAM.	CUMUL. % DEAD	
4/24/2000	0	0	0	25		0.00	0	0	25		0.00	0	0	25		0.00	
4/25/2000	1	1	1	24		4.00	2	2	23		8.00	2	2	22		8.00	
4/26/2000	2	1	2	23		8.00	0	2	23		8.00	0	2	22		16.00	
4/27/2000	3	0	2	23		8.00	0	2	23		8.00	0	4	21		16.00	
4/28/2000	4	0	2	23		8.00	0	2	23		8.00	0	4	21		16.00	
5/1/2000	7	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/2/2000	8	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/4/2000	10	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/5/2000	11	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/8/2000	14	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/10/2000	16	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/11/2000	17	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/12/2000	18	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/13/2000	21	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/16/2000	22	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/17/2000	23	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/18/2000	24	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/19/2000	25	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/22/2000	28	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/23/2000	29	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/24/2000	30	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/26/2000	32	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
5/30/2000	38	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
6/1/2000	42	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
6/5/2000	43	0	2	23		8.00	0	2	23		8.00	0	6	19		24.00	
6/14/2000	51	2	4	21		16.00	1	4	21		16.00	0	8	17		32.00	
6/19/2000	56	1	5	20		20.00	0	4	21		16.00	0	8	17		32.00	
6/22/2000	59	0	5	20		20.00	0	4	21		16.00	0	8	17		32.00	
6/23/2000	60	1	6	19		24.00	0	4	21		16.00	0	8	17		32.00	
6/27/2000	64	2	8	17		32.00	1	5	20		20.00	0	8	17		32.00	
6/29/2000	68	0	8	17		32.00	0	5	20		20.00	0	8	17		32.00	
7/3/2000	70	2	10	15		40.00	0	5	20		20.00	0	12	13		48.00	
7/6/2000	72	0	10	15		40.00	0	5	20		20.00	0	14	11		56.00	
7/11/2000	78	0	10	15		40.00	0	5	20		20.00	0	14	11		56.00	
7/13/2000	80	1	11	14		44.00	1	9	16		36.00	1	16	9		64.00	
7/18/2000	85	1	12	13		48.00	0	10	15		40.00	0	17	8		68.00	
7/19/2000	86	0	12	13		48.00	0	10	15		40.00	0	17	8		68.00	
7/21/2000	88	1	13	12		52.00	0	10	15		40.00	0	17	8		68.00	
7/24/2000	91	2	15	10		60.00	0	11	14		44.00	0	17	8		68.00	
7/27/2000	94	0	15	10		60.00	0	11	14		44.00	0	17	8		68.00	
7/31/2000	98	3	18	7		72.00	0	11	14		44.00	0	18	6		76.00	
8/2/2000	100	0	18	7		72.00	0	11	14		44.00	0	19	6		76.00	
8/3/2000	101	0	18	7		72.00	0	11	14		44.00	0	19	6		76.00	
8/10/2000	108	1	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/14/2000	112	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/16/2000	114	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/21/2000	119	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/23/2000	121	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/24/2000	122	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	
8/28/2000	126	0	19	6		76.00	0	11	14		44.00	0	21	4		84.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RAIA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 39				Replicate Tub 40				COMBINED REPLICATE MORTALITY STATISTICS			
		DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	DAILY CUMUL. % DEAD	DAILY NUMBER DEAD	CUMULATIVE DEAD	DAILY ALIVE	DAILY NO. METAM.	MEAN OF VAR (S2)	SEM	CV (%)
4/24/2000	0	0	0	25		0.00	0	0	25		0.000	0.000	na
4/25/2000	1	2	2	23		8.00	3	3	22		42.844	2.070	60.61
4/26/2000	2	0	2	23		8.00	0	3	22		36.111	1.978	52.12
4/27/2000	3	0	2	23		8.00	0	3	22		36.111	1.978	52.12
4/28/2000	4	0	2	23		8.00	0	3	22		36.111	1.978	52.12
5/1/2000	7	0	2	23		8.00	2	5	20		57.600	2.400	55.80
5/2/2000	8	0	2	23		8.00	0	5	20		57.600	2.400	55.80
5/4/2000	10	0	2	23		8.00	0	5	20		57.600	2.400	55.80
5/5/2000	11	0	2	23		8.00	0	5	20		57.600	2.400	55.80
5/8/2000	14	0	2	23		8.00	0	5	20		57.600	2.400	55.80
5/10/2000	16	0	2	23		8.00	0	5	20		54.222	2.329	52.60
5/12/2000	17	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/12/2000	18	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/13/2000	21	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/16/2000	22	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/17/2000	23	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/18/2000	24	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/19/2000	25	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/22/2000	28	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/23/2000	29	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/24/2000	30	0	2	23		8.00	0	5	20		68.267	2.613	57.38
5/26/2000	32	1	3	22		12.00	0	5	20		64.178	2.533	54.13
5/29/2000	36	0	3	22		12.00	0	5	20		64.178	2.533	54.13
6/1/2000	38	0	3	22		12.00	0	5	20		64.178	2.533	54.13
6/5/2000	42	1	4	21		16.00	0	5	20		83.378	2.888	55.85
6/8/2000	43	0	4	21		16.00	0	5	20		92.622	3.043	50.51
6/14/2000	51	0	4	21		16.00	0	5	20		92.622	2.875	50.51
6/19/2000	56	0	4	21		16.00	1	6	19		71.111	2.667	42.16
6/22/2000	59	0	4	21		16.00	0	6	19		59.733	2.444	37.16
6/23/2000	60	1	5	20		20.00	1	7	18		75.378	2.746	37.25
6/27/2000	64	0	5	20		20.00	0	11	14		96.711	3.110	34.52
6/29/2000	66	0	5	20		20.00	0	11	14		88.178	2.969	34.69
7/3/2000	70	3	8	17		32.00	0	11	14		135.822	3.685	35.91
7/5/2000	72	0	8	17		32.00	0	11	14		167.111	4.088	35.31
7/6/2000	73	0	8	17		32.00	0	11	14		165.156	4.064	35.31
7/11/2000	78	2	10	15		40.00	1	12	13		111.111	3.333	25.10
7/13/2000	80	0	10	15	1	44.00	0	12	13		92.622	3.043	21.28
7/18/2000	85	1	11	14		44.00	0	12	13		180.622	4.250	26.25
7/19/2000	86	0	11	14	1	44.00	0	12	13		190.622	4.250	26.25
7/21/2000	88	0	11	14	1	44.00	1	13	12		177.778	3.901	22.35
7/24/2000	91	0	11	14	1	44.00	1	14	11		152.178	3.876	21.13
7/27/2000	94	0	11	14		44.00	3	17	8		150.222	3.876	19.77
7/31/2000	98	1	12	13		48.00	1	18	7	2	150.222	3.876	19.77
8/2/2000	100	0	12	13		48.00	0	18	7		148.622	3.855	19.29
8/3/2000	101	0	12	13		48.00	0	18	7		148.622	3.855	19.29
8/10/2000	108	0	12	13		48.00	0	20	5		148.511	3.867	17.27
8/14/2000	112	2	14	11		56.00	2	20	5		158.044	3.975	16.63
8/16/2000	114	1	15	10		60.00	3	23	2		76.000	3.771	15.69
8/21/2000	119	6	21	4		84.00	0	23	2		78.800	3.043	12.21
8/23/2000	121	0	21	4		84.00	0	23	2		92.622	3.180	12.64
8/24/2000	122	0	21	4		84.00	0	23	2		101.156	3.180	12.64
8/28/2000	126	0	21	4		84.00	0	23	2		79.600	3.568	13.96
											80.800	127.269	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 31			Replicate Tub 32			Replicate Tub 33			Replicate Tub 34			Replicate Tub 35			Replicate Tub 36		
		DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %
4/24/2000	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/25/2000	1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/26/2000	2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/27/2000	3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
4/28/2000	4	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/1/2000	7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/2/2000	8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/4/2000	10	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/5/2000	11	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/6/2000	14	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/10/2000	16	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/11/2000	17	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/12/2000	18	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/15/2000	21	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/16/2000	22	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/17/2000	23	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/18/2000	24	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/19/2000	25	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/22/2000	28	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/23/2000	29	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/24/2000	30	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/26/2000	32	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
5/30/2000	36	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/1/2000	38	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/5/2000	42	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/6/2000	43	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/14/2000	51	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/19/2000	56	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/22/2000	59	1	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/23/2000	60	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/27/2000	64	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
6/29/2000	66	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/3/2000	70	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/5/2000	72	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/6/2000	73	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/11/2000	78	1	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/13/2000	80	1	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/18/2000	85	1	4	16.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/19/2000	86	0	4	16.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/21/2000	88	0	4	16.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/24/2000	91	0	4	16.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/27/2000	94	1	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
7/31/2000	98	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/2/2000	100	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/3/2000	101	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/10/2000	106	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/14/2000	112	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/16/2000	114	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/21/2000	119	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/23/2000	121	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/24/2000	122	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00
8/28/2000	126	0	5	20.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

DATE	DAY	Replicate Tub 37			Replicate Tub 38			Replicate Tub 39			Replicate Tub 40			COMBINED REPLICATE METAMORPHOSIS STATISTICS			
		DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	DAILY NUMBER	CUMUL. METAM.	CUMUL. %	MEAN OF % VAR (SE)	SEM	CV (%)	
4/24/2000	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
4/25/2000	1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
4/26/2000	2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
4/27/2000	3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
4/28/2000	4	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/1/2000	7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/2/2000	8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/4/2000	10	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/5/2000	11	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/6/2000	14	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/10/2000	16	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/11/2000	17	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/12/2000	18	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/15/2000	21	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/16/2000	22	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/17/2000	23	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/18/2000	24	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/19/2000	25	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/22/2000	28	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/23/2000	29	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/24/2000	30	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/26/2000	32	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
5/30/2000	36	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/1/2000	38	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/5/2000	42	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/6/2000	43	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/14/2000	51	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/19/2000	56	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/22/2000	59	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/23/2000	60	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/27/2000	64	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
6/29/2000	66	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/3/2000	70	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/5/2000	72	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/6/2000	73	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/11/2000	78	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/13/2000	80	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na	
7/16/2000	85	1	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
7/19/2000	86	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
7/21/2000	88	0	1	4.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
7/24/2000	91	1	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
7/27/2000	94	0	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
7/31/2000	98	0	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/2/2000	100	0	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/3/2000	101	0	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/10/2000	108	0	2	8.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/14/2000	112	1	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/16/2000	114	0	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/21/2000	119	0	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/23/2000	121	0	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na
8/24/2000	122	0	3	12.00	0	0	0.00	0	0	0.00	0	0	0.00	3.20	3.73	0.611	na

Note: Although egg masses were not observed for the same number of days, cumulative % mortality and metamorph values for the last day observed for each egg mass day to determine cumulative responses.

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 41 (WML -1) (data shared with main Phase I Developmental Study)

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**HOUSTON RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 41 (WNL-1) (data shared with main Phase I Developmental Study)**

DATE	EMO-A			EMO-B			EMO-C			EMO-D			EGG MASS MORTALITY STATISTICS			EGG MASS METAMORPH STATISTICS		
	NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. DEAD	CUMUL. DEAD	NO. ALIVE	NO. DEAD	CUMUL. DEAD	NO. ALIVE	MEAN OF % VAR (SD)	SEM	CV (%)	MEAN OF % VAR (SD)	SEM	CV (%)
4/13/2000	0	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/14/2000	1	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/15/2000	0	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/16/2000	2	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/17/2000	4	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/18/2000	5	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/19/2000	7	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/20/2000	11	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/21/2000	18	0	25	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/22/2000	11	1	24	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/23/2000	12	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/24/2000	13	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/25/2000	14	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/26/2000	15	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/27/2000	16	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/28/2000	18	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/29/2000	19	0	1	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
4/30/2000	20	1	2	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/1/2000	21	3	22	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/2/2000	22	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/3/2000	23	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/4/2000	24	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/5/2000	25	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/6/2000	26	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/7/2000	27	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/8/2000	28	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/9/2000	29	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/10/2000	30	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/11/2000	31	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/12/2000	32	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/13/2000	33	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/14/2000	34	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/15/2000	35	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/16/2000	36	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/17/2000	37	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/18/2000	38	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/19/2000	39	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/20/2000	40	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/21/2000	41	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/22/2000	42	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/23/2000	43	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/24/2000	44	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/25/2000	45	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/26/2000	46	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/27/2000	47	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/28/2000	48	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/29/2000	49	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/30/2000	50	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
5/31/2000	51	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/1/2000	52	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/2/2000	53	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/3/2000	54	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/4/2000	55	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/5/2000	56	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/6/2000	57	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/7/2000	58	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/8/2000	59	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/9/2000	60	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/10/2000	61	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/11/2000	62	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/12/2000	63	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/13/2000	64	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/14/2000	65	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/15/2000	66	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/16/2000	67	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/17/2000	68	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/18/2000	69	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/19/2000	70	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/20/2000	71	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/21/2000	72	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/22/2000	73	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/23/2000	74	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/24/2000	75	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/25/2000	76	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/26/2000	77	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/27/2000	78	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/28/2000	79	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/29/2000	80	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/30/2000	81	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
6/31/2000	82	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/1/2000	83	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/2/2000	84	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/3/2000	85	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/4/2000	86	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/5/2000	87	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/6/2000	88	0	3	0	0	25	0	0	0	0	0	0	0.0	0.0	na	0.0	0.0	na
7/7/2000	89	0	3	0	0													

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I PAMA sylvatica MORTALITY/METAMORPH DATA
SITE 41 (WML-1) (data shared with main Phase I Developmental Study)

DATE	DAY	EMO3-A				EMO3-B				EMO3-C				EMO3-D				MORTALITY STATISTICS				EGG MASS METAMORPH STATISTICS			
		NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	CUMUL.	NO.	CUMUL.	NO.	CUMUL.
4/13/2000	1	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/14/2000	1	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/15/2000	2	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/16/2000	4	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/17/2000	5	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/18/2000	6	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/19/2000	7	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/20/2000	8	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/21/2000	9	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/22/2000	10	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/23/2000	11	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/24/2000	12	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/25/2000	13	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/26/2000	14	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/27/2000	15	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/28/2000	16	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/29/2000	17	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
4/30/2000	18	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/1/2000	19	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/2/2000	20	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/3/2000	21	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/4/2000	22	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/5/2000	23	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/6/2000	24	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/7/2000	25	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/8/2000	26	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/9/2000	27	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/10/2000	28	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/11/2000	29	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/12/2000	30	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/13/2000	31	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/14/2000	32	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/15/2000	33	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/16/2000	34	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/17/2000	35	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/18/2000	36	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/19/2000	37	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/20/2000	38	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/21/2000	39	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/22/2000	40	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/23/2000	41	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/24/2000	42	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/25/2000	43	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/26/2000	44	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/27/2000	45	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/28/2000	46	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/29/2000	47	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/30/2000	48	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
5/31/2000	49	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/1/2000	50	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/2/2000	51	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/3/2000	52	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/4/2000	53	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/5/2000	54	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/6/2000	55	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/7/2000	56	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/8/2000	57	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/9/2000	58	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/10/2000	59	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/11/2000	60	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/12/2000	61	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/13/2000	62	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/14/2000	63	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/15/2000	64	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/16/2000	65	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/17/2000	66	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/18/2000	67	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/19/2000	68	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/20/2000	69	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/21/2000	70	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	
6/																									

FEL - Lower Houstonc River Project

For each egg mass, the number of days from oviposition to hatching was determined by counting the number of days from the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

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HOUSTON RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *Rana sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) (data shared with main Phase I Development aStudy)

DATE	EM2-A				EM2-B				EM2-C				EM2-D				EGG MASS MORTALITY STATISTICS		EGG MASS METAMORPH STATISTICS	
	NO. DEAD	CUMUL. DEAD	NO. ALIVE	% CUMUL. METAM.	NO. DEAD	CUMUL. DEAD	NO. ALIVE	% CUMUL. METAM.	NO. DEAD	CUMUL. DEAD	NO. ALIVE	% CUMUL. METAM.	NO. DEAD	CUMUL. DEAD	NO. ALIVE	% CUMUL. METAM.	MEAN OF % YAK (SE)	SEM CV (%)	MEAN OF % YAK (SE)	SEM CV (%)
4/13/2000	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0	0	25	0.00	0.0	0.0	0.0	0.0
4/16/2000	5	5	20	0.00	0	0	20	0.00	0	0	20	0.00	0	0	20	0.00	0.0	0.0	0.0	0.0
4/19/2000	7	12	18	0.00	0	0	18	0.00	0	0	18	0.00	0	0	18	0.00	0.0	0.0	0.0	0.0
4/21/2000	7	19	16	0.00	0	0	16	0.00	0	0	16	0.00	0	0	16	0.00	0.0	0.0	0.0	0.0
4/23/2000	8	27	15	0.00	0	0	15	0.00	0	0	15	0.00	0	0	15	0.00	0.0	0.0	0.0	0.0
4/24/2000	11	38	12	0.00	0	0	12	0.00	0	0	12	0.00	0	0	12	0.00	0.0	0.0	0.0	0.0
4/25/2000	12	50	10	0.00	0	0	10	0.00	0	0	10	0.00	0	0	10	0.00	0.0	0.0	0.0	0.0
4/26/2000	13	63	9	0.00	0	0	9	0.00	0	0	9	0.00	0	0	9	0.00	0.0	0.0	0.0	0.0
4/27/2000	14	77	8	0.00	0	0	8	0.00	0	0	8	0.00	0	0	8	0.00	0.0	0.0	0.0	0.0
4/28/2000	15	92	7	0.00	0	0	7	0.00	0	0	7	0.00	0	0	7	0.00	0.0	0.0	0.0	0.0
4/29/2000	16	108	6	0.00	0	0	6	0.00	0	0	6	0.00	0	0	6	0.00	0.0	0.0	0.0	0.0
4/30/2000	19	127	3	0.00	0	0	3	0.00	0	0	3	0.00	0	0	3	0.00	0.0	0.0	0.0	0.0
5/1/2000	20	147	2	0.00	0	0	2	0.00	0	0	2	0.00	0	0	2	0.00	0.0	0.0	0.0	0.0
5/2/2000	21	168	1	0.00	0	0	1	0.00	0	0	1	0.00	0	0	1	0.00	0.0	0.0	0.0	0.0
5/3/2000	20	188	1	0.00	0	0	1	0.00	0	0	1	0.00	0	0	1	0.00	0.0	0.0	0.0	0.0
5/4/2000	21	209	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/5/2000	22	231	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/6/2000	25	256	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/7/2000	26	282	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/8/2000	27	309	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/9/2000	28	337	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/10/2000	29	366	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/11/2000	30	396	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/12/2000	31	427	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/13/2000	32	459	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/14/2000	33	492	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/15/2000	34	526	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/16/2000	35	561	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/17/2000	36	597	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/18/2000	37	634	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/19/2000	38	672	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/20/2000	39	711	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/21/2000	40	751	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/22/2000	41	792	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/23/2000	42	834	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/24/2000	43	877	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/25/2000	44	921	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/26/2000	45	966	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/27/2000	46	1012	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/28/2000	47	1059	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/29/2000	48	1107	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/30/2000	49	1156	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
5/31/2000	50	1206	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/1/2000	51	1257	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/2/2000	52	1309	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/3/2000	53	1362	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/4/2000	54	1416	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/5/2000	55	1471	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/6/2000	56	1527	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/7/2000	57	1584	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/8/2000	58	1642	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/9/2000	59	1701	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/10/2000	60	1761	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/11/2000	61	1822	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/12/2000	62	1884	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/13/2000	63	1947	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/14/2000	64	2011	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/15/2000	65	2076	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/16/2000	66	2142	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/17/2000	67	2209	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/18/2000	68	2277	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/19/2000	69	2346	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/20/2000	70	2416	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/21/2000	71	2487	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/22/2000	72	2559	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/23/2000	73	2632	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/24/2000	74	2706	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/25/2000	75	2781	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/26/2000	76	2857	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/27/2000	77	2934	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/28/2000	78	3012	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/29/2000	79	3091	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0.0	0.0	0.0	0.0
6/30/2000	80	3171	0	0.																

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**HOUSTON RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *Rana sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WML-2) (data shared with main Phase I Development aStudy)**

EM04-A										EM04-B										EM04-C										EM04-D										EGG MASS				METAMORPH STATISTICS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
DATE		DAY		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.		NO.		CUMUL.			

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RAMA sylvatica MORTALITY/METAMORPH DATA
SITE 42 (WHL-2) (data shared with main Phase I Development atStudy)

DATE	DAY	EM05-A				EM05-B				EM05-C				EM05-D				EGG MASS				EGG MASS			
		NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	ALIVE	NO.	CUMUL.	NO.	CUMUL.	NO.	CUMUL.	NO.	CUMUL.
4/13/2000	0	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/18/2000	5	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/21/2000	8	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/23/2000	10	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/24/2000	11	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/25/2000	12	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/26/2000	13	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/27/2000	14	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/28/2000	15	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/29/2000	16	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4/30/2000	17	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/1/2000	18	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/2/2000	19	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/3/2000	20	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/4/2000	21	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/5/2000	22	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/6/2000	23	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/7/2000	24	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/8/2000	25	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/9/2000	26	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/10/2000	27	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/11/2000	28	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/12/2000	29	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/13/2000	30	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/14/2000	31	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/15/2000	32	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/16/2000	33	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/17/2000	34	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/18/2000	35	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/19/2000	36	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/20/2000	37	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/21/2000	38	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/22/2000	39	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/23/2000	40	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/24/2000	41	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/25/2000	42	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/26/2000	43	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/27/2000	44	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/28/2000	45	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/29/2000	46	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/30/2000	47	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
5/31/2000	48	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/1/2000	49	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/2/2000	50	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/3/2000	51	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/4/2000	52	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/5/2000	53	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/6/2000	54	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/7/2000	55	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/8/2000	56	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/9/2000	57	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/10/2000	58	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/11/2000	59	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/12/2000	60	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/13/2000	61	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/14/2000	62	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/15/2000	63	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/16/2000	64	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/17/2000	65	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/18/2000	66	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/19/2000	67	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/20/2000	68	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/21/2000	69	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/22/2000	70	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/23/2000	71	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/24/2000	72	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/25/2000	73	0	0	0	25	0	0	0	25	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
6/26/2000	74	0	0	0	25	0	0	0	25	0															

HOUSTON RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 42 (WML-2) (data shared with main Phase I Development aStudy)

1-EMOSA										1-EMOS-B										1-EMOS-C										1-EMOS-D										EGG MASS				METAMORPH STATISTICS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2009
PHASE I *RANA sylvatica* MORTALITY/METAMORPH DATA
SITE 42 (WM1-2) (data shared with main Phase I Development aStudy)

morality and melanomorph values for the last day observed for each egg mass were carried on to the last study day to determine cumulative responses.

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* LARVAL STAGE/MALFORMATION DATA
DATA SUMMARY FOR FIGURES**

38-VP-2 Larvae in WML-2 Water/Sediment (N=10)			
DAY	STAGE	% MAL	SEM
0	-	-	-
6	16	0.40	0.4
42	27	26.76	3.6
69	29	30.05	4.0
100	42	37.56	5.6

38-VP-1 Larvae in WML-1 Water/Sediment (N=10)			
DAY	STAGE	% MAL	SEM
0	-	-	-
6	23	2.27	1.6
42	28	8.33	2.1
69	40	26.47	4.4
100	42	27.17	10.1

WML-1 Larvae in 38-VP-1 Water/Sediment (N=8,6,4)			
DAY	STAGE	% MAL	SEM
0	-	-	-
2	24	0.57	0.6
32	28	0.54	0.5
60	34	26.10	6.8
91	39	34.72	14.8

WML-2 Larvae in 38-VP-2 Water/Sediment (N=10)			
DAY	STAGE	% MAL	SEM
0	-	-	-
2	23	2.32	1.2
32	30	23.15	2.7
60	44	30.52	3.4
91	46	40.16	4.9

Data Shared with Main Developmental Study WML-1 Larvae/Water/Sediment (N=6)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.85	0.3
47	30	1.85	0.6
74	34	2.31	0.4
105	38	2.04	0.8

Data Shared with Main Developmental Study WML-2 Larvae/Water/Sediment (N=6)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.51	0.2
47	34	0.00	0.0
74	40	1.06	0.5
105	42	0.00	na

Site 21 (38-VP-2) Sediment PCB =62.0 mg/kg
 Site 30 (38-VP-1) Sediment PCB =28.0 mg/kg
 Site 41 (WML-1) Sediment PCB =0.007 mg/Kg
 Site 42 (WML-2) Sediment PCB =0.013 mg/Kg

Comments: 1. % malformations are based on total number of malformed larvae per total number of surviving larvae on a given study day.
 2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given site on a given study day.

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

STAGE 16 4/24/2000, DAY 6

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
11	25	0	0.00												MEAN of % 0.40 Var (S2) 1.6 SEM 0.4 CV (%) 316.2
12	24	0	0.00												
13	24	0	0.00												
14	25	0	0.00												
15	25	0	0.00												
16	25	1	4.00		1	1		1							
17	23	0	0.00												
18	25	0	0.00												
19	25	0	0.00												
20	22	0	0.00												
TOTAL NO.	243	1		0	1	1	0	1	0	0	0	0	0	0	
AVERAGE % MALFORMED			0.40	0.00	0.40	0.40	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE 25-27 5/30/2000, DAY 42

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMOR.	CARDIAC	HIND LIMB	
11	25	3	12.00					3		2	3				MEAN of % 26.76 Var (S2) 130.9 SEM 3.6 CV (%) 42.8
12	23	3	13.04		2	2		3		2	3				
13	24	3	12.50		3	3		3		1	3				
14	24	8	33.33		8	8		8		2	7				
15	25	6	24.00		6	5		5		2	5				
16	19	8	42.11		8	8		6		2	7				
17	23	6	26.09		4	4		5		1	6				
18	23	9	39.13		9	9		6			6				
19	21	8	38.10		8	8		5		2	7				
20	22	6	27.27		6	5		3			4				
TOTAL NO.	229	60		0	54	52	0	47	0	14	51	0	0	0	
AVERAGE % MALFORMED			26.76	0.00	24.25	23.40	0.00	20.77	0.00	6.16	22.72	0.00	0.00	0.00	

STAGE 27-29 6/26/2000, DAY 69

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMOR.	CARDIAC	HIND LIMB	
11	21	5	23.81		5	5		5			5				MEAN of % 30.05 Var (S2) 159.8 SEM 4.0 CV (%) 42.1
12	20	7	35.00		7	7		5			6				
13	22	5	22.73		5	5		4			4				
14	22	3	13.64		3	3									
15	25	8	32.00		8	8		7			7				
16	15	7	46.67		7	7		5			6				
17	20	8	40.00		8	8		6			7				
18	21	4	19.05		4	4		3			3				
19	10	5	50.00		5	5		2			2				
20	17	3	17.65		3	3		1			1				
TOTAL NO.	193	55		0	55	55	0	38	0	0	41	0	0	0	
AVERAGE % MALFORMED			30.05	0.00	30.05	30.05	0.00	19.85	0.00	0.00	21.52	0.00	0.00	0.00	

STAGE 38-42 7/27/2000, DAY 100

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMOR.	CARDIAC	HIND LIMB	
11	12	5	41.67		4	5		4		2	4				MEAN of % 37.56 Var (S2) 283.4 SEM 5.6 CV (%) 44.8
12	8	2	25.00		2	2		1		1	1				
13	16	3	18.75		3	3		2			3				
14	16	7	43.75		7	7		6		2	5				
15	10	2	20.00		2	2		2							
16	6	3	50.00		3	3									
18	9	2	22.22		2	2		2							
19	4	2	50.00		2	2		1			1				
20	3	2	66.67		2	2		1			1				
TOTAL NO.	84	28		0	27	28	0	19	0	5	17	0	0	0	
AVERAGE % MALFORMED			37.56	0.00	36.84	37.56	0.00	21.82	0.00	4.63	19.60	0.00	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

STAGE 40-42 8/28/2000, DAY 132

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMOR.	CARDIAC	HIND LIMB		
12	2	0	0.00												MEAN of %	15.00
14	10	3	30.00		2	3		2			2				Var (S2)	450.0
															SEM	15.0
															CV (%)	141.4
TOTAL NO.	12	3		0	2	3	0	2		0	2	0		0		
AVERAGE % MALFORMED			15.00	0.00	10.00	15.00	0.00	10.00		0.00	10.00	0.00		0.00		

STAGE 40-42 9/7/2000, DAY 142

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMOR.	CARDIAC	HIND LIMB		
14	2	0	0.00												MEAN of %	0.00
TOTAL NO.	2	0		0	0	0	0	0		0	0	0		0	Var (S2)	na
AVERAGE % MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00		0.00	SEM	na
															CV (%)	na

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

STAGE 22-23 4/24/2000, DAY 6

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
1	25	0	0.00												MEAN of % 2.27 Var (S2) 24.1 SEM 1.6 CV (%) 216.0
2	24	0	0.00												
3	24	0	0.00												
4	21	0	0.00												
5	24	0	0.00												
6	23	0	0.00												
7	25	0	0.00												
8	22	3	13.64		3	3		2			2				
9	22	2	9.09		2	2									
10	25	0	0.00												
TOTAL NO.	235	5		0	5	5	0	2	0	0	2	0	0	0	
AVERAGE % MALFORMED			2.27	0.00	2.27	2.27	0.00	0.91	0.00	0.00	0.91	0.00	0.00	0.00	

STAGE 25-28 5/30/2000, DAY 42

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
1	25	3	12.00		3	3		1			3				MEAN of % 8.33 Var (S2) 45.3 SEM 2.1 CV (%) 80.8
2	23	0	0.00								3				
3	24	3	12.50		3	3		2			2		1		
4	21	2	9.52		2	2		1							
5	24	1	4.17		1	1					1		1		
6	21	1	4.76		1	1					1				
7	24	0	0.00												
8	19	3	15.79		3	3					1		1		
9	22	1	4.55		1	1					1				
10	25	5	20.00		5	5		4			2				
TOTAL NO.	228	19		0	19	19	0	8	0	0	13	0	4	0	
AVERAGE % MALFORMED			8.33	0.00	8.33	8.33	0.00	3.31	0.00	0.00	5.66	0.00	1.93	1.93	

STAGE 36-40 6/26/2000, DAY 69

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
1	18	4	22.22		4	4		3			3				MEAN of % 26.47 Var (S2) 191.0 SEM 4.4 CV (%) 52.2
2	21	2	9.52		2	2		2			2				
3	21	3	14.29		3	3		1			3				
4	17	4	23.53		4	4		2			2	1			
5	23	5	21.74		5	2		3	1		3				
6	19	6	31.58		6	5	2	5			4	1			
7	21	5	23.81		5	2		4			3	3			
8	12	7	58.33		7	6		4			2	4			
9	18	7	38.89		7	5	3	5			5				
10	24	5	20.83		5	5		4			4				
TOTAL NO.	194	48		0	48	38	5	33	1	0	31	9	0	0	
AVERAGE % MALFORMED			26.47	0.00	26.47	21.27	2.72	17.89	0.43	0.00	16.17	5.88	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

STAGE 36-42 7/27/2000, DAY 100

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
1	4	1	25.00		1	1					1				MEAN of % 27.17 Var (S2) 912.0 SEM 10.1 CV (%) 111.2
2	15	3	20.00		3	2					3				
3	1	0	0.00												
5	20	4	20.00		4	4		2			4				
6	1	0	0.00												
7	5	1	20.00		1	1					1				
8	2	2	100.00		2	2									
9	7	3	42.86		3	3									
10	12	2	16.67											2	
TOTAL NO.	67	16		0	14	13	0	2	0	0	9	0	0	2	
AVERAGE % MALFORMED			27.17	0.00	25.32	24.58	0.00	1.11	0.00	0.00	9.44	0.00	0.00	1.85	

STAGE 40-44 8/28/2000, DAY 132

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
2	1	0	0.00												MEAN of % 0.00 Var (S2) 0.0 SEM 0.0 CV (%) NA
10	1	0	0.00												
TOTAL NO.	2	0		0	0	0	0	0	0	0	0	0	0	0	
AVERAGE % MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

STAGE 23-24 4/26/2000, DAY 2

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
21	22	1	4.55		1	1									MEAN of % 0.57 Var (S2) 2.6 SEM 0.6 CV (%) 282.8
22	25	0	0.00												
23	24	0	0.00												
24	25	0	0.00												
25	25	0	0.00												
26	24	0	0.00												
27	24	0	0.00												
28	17	0	0.00												
TOTAL NO.	186	1		0	1	1	0	0	0	0	0	0	0	0	
AVERAGE % MALFORMED			0.57	0.00	0.57	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE 25-28 5/26/2000, DAY 32

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
21	21	0	0.00												MEAN of % 0.54 Var (S2) 2.4 SEM 0.5 CV (%) 282.8
22	21	0	0.00												
23	23	0	0.00												
24	25	0	0.00												
25	23	1	4.35		1	1									
26	23	0	0.00												
27	24	0	0.00												
28	12	0	0.00												
TOTAL NO.	172	1		0	1	1	0	0	0	0	0	0	0	0	
AVERAGE % MALFORMED			0.54	0.00	0.54	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

STAGE 29-34 6/23/2000, DAY 60

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
21	7	0	0.00												MEAN of % 26.10 Var (S2) 279.9 SEM 6.8 CV (%) 64.1
23	9	3	33.33		3	2		3			2				
24	19	4	21.05		4	4	3	2			4				
25	17	3	17.65		3	2		2			2				
26	17	8	47.06		8	8					8				
27	16	6	37.50		6	5		2			5				
28	16	6	37.50		6	5		2			5				
TOTAL NO.	85	24		0	24	21	3	9	0	0	21	0	0	0	
AVERAGE % MALFORMED			26.10	0.00	26.10	22.22	2.63	11.35	0.00	0.00	22.22	0.00	0.00	0.00	

STAGE 34-39 7/24/2000, DAY 91

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
24	9	2	22.22		2	2					2				MEAN of % 34.72 Var (S2) 871.9 SEM 14.8 CV (%) 85.0
25	2	0	0.00												
26	3	2	66.67		2	2		2		1	2				
27	2	1	50.00		1	1					1				
TOTAL NO.	16	5		0	5	5	0	2	0	0	5	0	0	0	
AVERAGE % MALFORMED			34.72	0.00	34.72	34.72	0.00	16.67	0.00	8.33	34.72	0.00	0.00	0.00	

STAGE 34-39 8/4/2000, DAY 101

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
24	4	2	50.00		2	2					2				MEAN of % 83.33 Var (S2) 833.3 SEM 16.7 CV (%) 34.6
25	1	1	100.00		1	1					1				
26	1	1	100.00		1	1					1				
TOTAL NO.	6	4		0	4	4	0	0	0	0	4	0	0	0	
AVERAGE % MALFORMED			83.33	0.00	83.33	83.33	0.00	0.00	0.00	0.00	83.33	0.00	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

STAGE 23 4/26/2000, DAY 2

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
31	23	0	0.00												MEAN of % 2.32 Var (S2) 15.6 SEM 1.2 CV (%) 170.5
32	23	0	0.00												
33	18	0	0.00												
34	22	1	4.55		1	1									
35	23	0	0.00												
36	23	0	0.00												
37	21	2	9.52	1	2	2		2			2				
38	22	0	0.00												
39	23	0	0.00												
40	22	2	9.09		2	2		2			2				
TOTAL NO.	220	5		1	5	5	0	4	0	0	4	0	0	0	
AVERAGE % MALFORMED			2.32	0.48	2.32	2.32	0.00	1.86	0.00	0.00	1.86	0.00	0.00	0.00	

STAGE 26-30 5/26/2000, DAY 32

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
31	23	7	30.43		5	5									MEAN of % 23.15 Var (S2) 72.0 SEM 2.7 CV (%) 36.6
32	23	2	8.70		2	2		1			2				
33	17	5	29.41		5	5		3		2	3				
34	22	6	27.27		6	6		4		3	5				
35	23	4	17.39		4	4		2		4	3				
36	22	8	36.36		8	6		4		1	7				
37	19	4	21.05		4	4		2		1	4				
38	22	3	13.64		3	3		3			3				
39	22	6	27.27		6	6		5			4				
40	20	4	20.00		4	2		3			4				
TOTAL NO.	213	49		0	47	43	0	27	0	11	35	0	0	0	
AVERAGE % MALFORMED			23.15	0.00	22.28	20.37	0.00	12.89	0.00	5.26	16.68	0.00	0.00	0.00	

STAGE 38-44 6/23/2000, DAY 60

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
31	21	10	47.62		10	9		10			8	2			MEAN of % 30.52 Var (S2) 115.3 SEM 3.4 CV (%) 35.2
32	20	5	25.00		5	4		3			5				
33	14	6	42.86		6	5	2	4		1	5				
34	20	5	25.00		5	4		3			3				
35	19	4	21.05		4	4		2			2				
36	21	9	42.86		9	6		5		2	4				
37	17	6	35.29		6	4				4	5				
38	21	5	23.81		5	5		3		2	4				
39	20	5	25.00		5	5		4		3	4				
40	18	3	16.67		3	2		2		1	1				
TOTAL NO.	191	58		0	58	48	2	36	0	13	41	2	0	0	
AVERAGE % MALFORMED			30.52	0.00	30.52	25.16	1.43	18.59	0.00	7.03	21.74	0.95	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL MALFORMATION DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

STAGE 42-46 7/24/2000, DAY 91

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
31	8	3	37.50		3	3		3		1	2				MEAN of % 40.16 Var (S2) 214.1 SEM 4.9 CV (%) 36.4
32	2	1	50.00		1	1									
34	10	4	40.00		4	2		3		2	4				
35	5	3	60.00		3	3								2	
36	10	6	60.00		6	6		4		2	3		2		
37	6	1	16.67		1	1					1				
38	10	3	30.00		3	3					3				
39	10	4	40.00		4	4	2				4				
40	11	3	27.27		3	3					3				
TOTAL NO.	72	28		0	28	26	2	10	0	5	20	0	2	2	
AVERAGE % MALFORMED			40.16	0.00	40.16	37.94	2.22	11.94	0.00	5.83	23.22	0.00	2.22	4.44	

STAGE 38-40 8/24/2000, DAY 122

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)											COMBINED STATISTICS
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	HEMORRHAGE	CARDIAC	HIND LIMB	
37	1	1	100.00		1	1									MEAN of % 75.00 Var (S2) 1250.0 SEM 25.0 CV (%) 47.1
38	2	1	50.00		1	1									
TOTAL NO.	3	2		0	2	2	0	0	0	0	0	0	0	0	
AVERAGE % MALFORMED			75.00	0.00	75.00	75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Main Developmental Study)

STAGE 23-24 4/24/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGO MASS SUMMARY
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED	
EM01 A	25	0	0.00															MEAN of % 0.00
B	25	0	0.00															Var (S2) 0.0
C	25	0	0.00															SEM 0.0
D	25	0	0.00															CV (%) na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM02 A	25	0	0.00															MEAN of % 2.04
B	25	1	4.00		1	1												Var (S2) 5.6
C	24	1	4.17		1	1												SEM 1.2
D	25	0	0.00															CV (%) 115.5
		Avg % Malforme	2.04	0.00	2.04	2.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM03 A	23	1	4.35		1	1		1										MEAN of % 1.09
B	24	0	0.00															Var (S2) 4.7
C	25	0	0.00															SEM 1.1
D	25	0	0.00															CV (%) 200.0
		Avg % Malforme	1.09	0.00	1.09	1.09	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM04 A	24	0	0.00															MEAN of % 1.00
B	25	0	0.00															Var (S2) 4.0
C	25	1	4.00	1	1	1												SEM 1.0
D	25	0	0.00															CV (%) 200.0
		Avg % Malforme	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM05 A	25	0	0.00															MEAN of % 1.00
B	25	0	0.00															Var (S2) 4.0
C	25	1	4.00		1	1												SEM 1.0
D	25	0	0.00															CV (%) 200.0
		Avg % Malforme	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1-EM05 A	24	0	0.00															MEAN of % 0.00
B	25	0	0.00															Var (S2) 0.0
C	24	0	0.00															SEM 0.0
D	24	0	0.00															CV (%) na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total No.:	592	5		1	5	5	0	1	0	0	0	0	0	0	0	0	0	
		Avg of Means	0.85	0.17	0.85	0.85	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Var (S2)	0.6	0.2	0.6	0.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		SEM	0.3	0.2	0.3	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		CV (%)	90.1	244.9	90.1	90.1	na	244.9	na	na	na	na	na	na	na	na	na	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Main Developmental Study)

STAGE 29-30 5/30/2000, DAY 47

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	23	1	4.35		1	1			1	1								MEAN of %	2.13
B	24	1	4.17	1	1	1		1				1						Var (S2)	6.0
C	19	0	0.00															SEM	1.2
D	25	0	0.00															CV (%)	115.5
		Avg % Malforme	2.13	1.04	2.13	2.13	0.00	1.04	1.09	1.09	0.00	1.04	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	0	0.00															MEAN of %	0.00
B	21	0	0.00															Var (S2)	0.0
C	22	0	0.00															SEM	0.0
D	23	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	18	0	0.00															MEAN of %	2.34
B	17	0	0.00															Var (S2)	7.4
C	20	1	5.00	1	1	1						1						SEM	1.4
D	23	1	4.35	1	1	1						1						CV (%)	116.0
		Avg % Malforme	2.34	2.34	2.34	2.34	0.00	0.00	0.00	0.00	0.00	2.34	0.00	0.00	0.00	0.00	0.00		
EM04 A	22	0	0.00															MEAN of %	4.09
B	25	2	8.00	2	2	2				1	1	2						Var (S2)	10.7
C	23	1	4.35									1						SEM	1.6
D	25	1	4.00									1						CV (%)	80.0
		Avg % Malforme	4.09	2.00	2.00	2.00	0.00	0.00	0.00	1.00	1.00	4.09	0.00	0.00	0.00	0.00	0.00		
EM05 A	23	1	4.35										1					MEAN of %	1.45
C	22	0	0.00															Var (S2)	6.3
D	24	0	0.00															SEM	1.4
		Avg % Malforme	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	0.00	0.00	0.00	CV (%)	173.2
1-EM05 A	23	1	4.35	1									1					MEAN of %	1.09
B	21	0	0.00															Var (S2)	4.7
C	18	0	0.00															SEM	1.1
D	19	0	0.00															CV (%)	200.0
		Avg % Malforme	1.09	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00	0.00	0.00	0.00		
Total No.:	503	10		5	6	6	0	1	1	2	1	9	0	0	0	0	0		
		Avg of Means	1.85	1.08	1.08	1.08	0.00	0.17	0.18	0.35	0.17	1.67	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	1.9	1.0	1.4	1.4	0.0	0.2	0.2	0.3	0.2	2.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.6	0.4	0.5	0.5	0.0	0.2	0.2	0.2	0.2	0.6	0.0	0.0	0.0	0.0	0.0		
		CV (%)	74.5	90.6	110.0	110.0	na	244.9	244.9	155.1	244.9	84.2	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Main Developmental Study)

STAGE 30-34 6/26/2000, DAY 74

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	21	1	4.76		1							1						MEAN of %	3.19
B	23	0	0.00															Var (S2)	11.5
C	19	0	0.00															SEM	1.7
D	25	2	8.00	1								2						CV (%)	106.2
		Avg % Malforme	3.19	1.00	1.19	0.00	0.00	0.00	0.00	0.00	0.00	3.19	0.00	0.00	0.00	0.00	0.00		
EM02 A	21	1	4.76	1														MEAN of %	2.28
B	21	0	0.00															Var (S2)	6.9
C	19	0	0.00															SEM	1.3
D	23	1	4.35	1														CV (%)	115.7
		Avg % Malforme	2.28	2.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	18	0	0.00															MEAN of %	1.14
B	16	0	0.00															Var (S2)	5.2
C	19	0	0.00															SEM	1.1
D	22	1	4.55		1							1						CV (%)	200.0
		Avg % Malforme	1.14	0.00	1.14	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.00	0.00	0.00	0.00	0.00		
EM04 A	19	0	0.00															MEAN of %	3.26
B	23	2	8.70	1								2						Var (S2)	17.3
C	20	0	0.00															SEM	2.1
D	23	1	4.35									1						CV (%)	127.7
		Avg % Malforme	3.26	1.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.26	0.00	0.00	0.00	0.00	0.00		
EM05 A	21	0	0.00															MEAN of %	2.78
C	18	0	0.00															Var (S2)	23.1
D	24	2	8.33	1								2						SEM	2.8
		Avg % Malforme	2.78	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00	0.00	0.00	CV (%)	173.2
1-EM05 A	21	1	4.76									1						MEAN of %	1.19
B	19	0	0.00															Var (S2)	5.7
C	15	0	0.00															SEM	1.2
D	16	0	0.00															CV (%)	200.0
		Avg % Malforme	1.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00		
Total No.:	466	12		5	2	0	0	0	0	0	0	10	0	0	0	0	0		
		Avg of Means	2.31	0.96	0.39	0.00	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.9	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0		
		SEM	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0		
		CV (%)	41.3	90.7	155.0	na	na	na	na	na	na	69.6	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Main Developmental Study)

STAGE 36-38 7/27/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	17	0	0.00															MEAN of %	1.67
B	17	0	0.00															Var (S2)	11.1
C	15	1	6.67		1	1												SEM	1.7
D	1	0	0.00															CV (%)	200.0
		Avg % Malforme	1.67	0.00	1.67	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	15	0	0.00															MEAN of %	1.67
B	15	1	6.67		1	1		1										Var (S2)	11.1
C	14	0	0.00															SEM	1.7
D	16	0	0.00															CV (%)	200.0
		Avg % Malforme	1.67	0.00	1.67	1.67	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	13	0	0.00															MEAN of %	0.00
B	11	0	0.00															Var (S2)	0.0
C	11	0	0.00															SEM	0.0
D	15	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	7	0	0.00															MEAN of %	0.00
B	12	0	0.00															Var (S2)	0.0
C	8	0	0.00															SEM	0.0
D	10	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	20	2	10.00	1	2	1						2						MEAN of %	4.92
C	4	0	0.00									1						Var (S2)	25.0
D	21	1	4.76	1														SEM	2.9
		Avg % Malforme	4.92	3.25	3.33	1.67	0.00	0.00	0.00	0.00	0.00	4.92	0.00	0.00	0.00	0.00	0.00	CV (%)	101.7
1-EM05 A	12	1	8.33		1	1		1				1						MEAN of %	4.01
B	13	1	7.69	1								1						Var (S2)	21.5
C	8	0	0.00															SEM	2.3
D	8	0	0.00															CV (%)	115.7
		Avg % Malforme	4.01	1.92	2.08	2.08	0.00	2.08	0.00	0.00	0.00	4.01	0.00	0.00	0.00	0.00	0.00		
Total No.:	285	7		3	5	4	0	2	0	0	0	5	0	0	0	0	0		
		Avg of Means	2.04	0.86	1.46	1.18	0.00	0.63	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	4.2	2.0	1.6	0.9	0.0	1.0	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0		
		SEM	0.8	0.6	0.5	0.4	0.0	0.4	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0		
		CV (%)	99.7	162.4	88.1	78.7	na	156.3	na	na	na	156.1	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 41 (WML-1) (Data shared with Main Developmental Study)

STAGE 41-42 8/28/2000, DAY 137

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 A	9	0	0.00															MEAN of %	0.00
B	9	0	0.00															Var (S2)	0.0
C	3	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 C	2	0	0.00															MEAN of %	0.00
D	12	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	3	0	0.00															MEAN of %	0.00
C	3	0	0.00															Var (S2)	0.0
D	4	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 B	1	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	5	0	0.00															MEAN of %	0.00
																		Var (S2)	na
																		SEM	na
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 B	6	0	0.00															MEAN of %	0.00
D	1	0	0.00															Var (S2)	0.0
																		SEM	0.0
																		CV (%)	na
		Avg % Malforms	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	58	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Main Developmental Study)

STAGE 22-24 4/24/2000, DAY 11

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														EGG MASS SUMMARY
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED	
EM01 A	24	0	0.00															MEAN of % 0.00
B	25	0	0.00															Var (S2) 0.0
C	25	0	0.00															SEM 0.0
D	25	0	0.00															CV (%) na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM02 A	25	0	0.00															MEAN of % 1.00
B	25	0	0.00															Var (S2) 4.0
C	25	1	4.00	1								1						SEM 1.0
D	24	0	0.00															CV (%) 200.0
		Avg % Malforme	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	
EM03 A	23	0	0.00															MEAN of % 1.00
B	23	0	0.00															Var (S2) 4.0
C	25	0	0.00															SEM 1.0
D	25	1	4.00	1								1						CV (%) 200.0
		Avg % Malforme	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	
EM04 A	24	0	0.00															MEAN of % 1.04
B	24	0	0.00															Var (S2) 4.3
C	24	1	4.17	1														SEM 1.0
D	24	0	0.00															CV (%) 200.0
		Avg % Malforme	1.04	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
EM05 A	25	0	0.00															MEAN of % 0.00
B	25	0	0.00															Var (S2) 0.0
C	22	0	0.00															SEM 0.0
D	24	0	0.00															CV (%) na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1-EM05 A	22	0	0.00															MEAN of % 0.00
B	18	0	0.00															Var (S2) 0.0
C	23	0	0.00															SEM 0.0
D	25	0	0.00															CV (%) na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total No.:	574	3		3	0	0	0	0	0	0	0	2	0	0	0	0	0	
		Avg of Means	0.51	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	
		Var (S2)	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	
		SEM	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	
		CV (%)	109.6	109.6	na	na	na	na	na	na	na	154.9	na	na	na	na	na	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Main Developmental Study)

STAGE 30-34 5/30/2000, DAY 47

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 B	16	0	0.00															MEAN of %	0.00
C	21	0	0.00															Var (S2)	0.0
D	8	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM02 A	23	0	0.00															MEAN of %	0.00
B	8	0	0.00															Var (S2)	0.0
C	24	0	0.00															SEM	0.0
D	24	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	22	0	0.00															MEAN of %	0.00
B	22	0	0.00															Var (S2)	0.0
C	23	0	0.00															SEM	0.0
D	18	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 A	6	0	0.00															MEAN of %	0.00
B	24	0	0.00															Var (S2)	0.0
C	20	0	0.00															SEM	0.0
D	22	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM05 A	21	0	0.00															MEAN of %	0.00
B	9	0	0.00															Var (S2)	0.0
C	17	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	22	0	0.00															MEAN of %	0.00
B	4	0	0.00															Var (S2)	0.0
C	21	0	0.00															SEM	0.0
D	18	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total No.:	393	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Main Developmental Study)

STAGE 37-40 6/26/2000, DAY 74

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)															
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED		
EM01 C	20	1	5.00	1								1						MEAN of %	2.50
D	1	0	0.00															Var (S2)	6.3
																		SEM	1.8
																		CV (%)	100.0
		Avg % Malforme	2.50	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00		
EM02 A	21	0	0.00															MEAN of %	0.00
C	23	0	0.00															Var (S2)	0.0
D	21	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM03 A	21	0	0.00															MEAN of %	0.00
B	21	0	0.00															Var (S2)	0.0
C	22	0	0.00															SEM	0.0
D	17	0	0.00															CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EM04 B	23	0	0.00															MEAN of %	2.22
C	19	0	0.00															Var (S2)	14.8
D	15	1	6.67	1								1						SEM	2.2
																		CV (%)	173.2
		Avg % Malforme	2.22	2.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	0.00	0.00	0.00	0.00	0.00		
EM05 A	9	0	0.00															MEAN of %	0.00
B	3	0	0.00															Var (S2)	0.0
C	13	0	0.00															SEM	0.0
																		CV (%)	na
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1-EM05 A	20	1	5.00													1		MEAN of %	1.67
C	15	0	0.00															Var (S2)	8.3
D	10	0	0.00															SEM	1.7
																		CV (%)	173.2
		Avg % Malforme	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.00		
Total No.:	294	3		2	0	0	0	0	0	0	0	2	0	0	0	1	0		
		Avg of Means	1.06	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.29	0.00		
		Var (S2)	1.4	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.5	0.0		
		SEM	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0		
		CV (%)	112.4	155.3	na	na	na	na	na	na	na	155.3	na	na	na	244.9	na		

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I *RANA sylvatica* DEVELOPMENTAL STAGE/MALFORMATION DATA
SITE 42 (WML-2) (Data shared with Main Developmental Study)

STAGE 40-42 7/27/2000, DAY 105

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)														SEVERE	STUNTED		
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB						
EM01 C	15	0	0.00															MEAN of %	0.00		
																		Var (S2)	na		
																		SEM	na		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM02 A	10	0	0.00															MEAN of %	0.00		
C	15	0	0.00															Var (S2)	0.0		
D	12	0	0.00															SEM	0.0		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM03 D	9	0	0.00															MEAN of %	0.00		
																		Var (S2)	na		
																		SEM	na		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM04 B	19	0	0.00															MEAN of %	0.00		
C	1	0	0.00															Var (S2)	0.0		
D	5	0	0.00															SEM	0.0		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
EM05 C	2	0	0.00															MEAN of %	0.00		
																		Var (S2)	na		
																		SEM	na		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
1-EM05 A	6	0	0.00															MEAN of %	0.00		
C	8	0	0.00															Var (S2)	0.0		
D	4	0	0.00															SEM	0.0		
																		CV (%)	na		
		Avg % Malforme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Total No.:	106	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		Avg of Means	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
		Var (S2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		SEM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
		CV (%)	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na				

[illegible]

[illegible]

SAMPLE ID	NUMBER	%	MEAN & MAXI VALUES LARGE PORTABLE VERGE % USE AGE													
	MALFORMED	MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMOR.	CARDIAC	LIMB	SEVERE	STUNTED
EM01	1		1	0	0	0	0	0	0	0	1	0	0	0	0	0
EM02	1		1	0	0	0	0	0	0	0	1	0	0	0	0	0
EM03	1		1	0	0	0	0	0	0	0	1	0	0	0	0	0
EM04	2		2	0	0	0	0	0	0	0	1	0	0	0	0	0
EM05	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-EM05	1		0	0	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL NO.	6		5	0	0	0	0	0	0	0	4	0	0	0	1	0
	Grand Means	0.26	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.05	0.00
	Var (S2)	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	SEM	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	CV (%)	168.9	160.3	na	na	na	na	na	na	na	172.9	na	na	na	244.9	na

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH (Length in cm)
 DATA SUMMARY

	Site 21 (38-VP-2) in Site 42 (WML-2)	Site 30 (38-VP-1) in Site 41 (WML-1)	Site 41 (WML-1) in Site 30 (38-VP-1)	Site 42 (WML-2) in Site 21 (38-VP-2)	Site 41 (WML-1) Reference	Site 42 (WML-2) Reference
Study Day:	6	6	2	2	11	11
Growth Stage:	16	23	24	23	24	24
Treatment Statistics:						
N	10	10	8	10	6	6
Mean	1.522	1.730	1.918	1.673	2.065	2.067
Var. (S ²)	0.004	0.005	0.008	0.004	0.024	0.020
SEM	0.021	0.023	0.032	0.021	0.063	0.058
Study Day:						
Growth Stage:						
Treatment Statistics:						
N	10	10	8	10	6	6
Mean	2.710	2.705	2.657	2.396	2.787	2.944
Var. (S ²)	0.023	0.022	0.019	0.006	0.009	0.019
SEM	0.048	0.047	0.049	0.025	0.039	0.056
Study Day:						
Growth Stage:						
Treatment Statistics:						
N	10	10	6	10	6	6
Mean	3.072	3.194	2.952	2.919	3.061	3.158
Var. (S ²)	0.062	0.033	0.017	0.077	0.014	0.024
SEM	0.079	0.057	0.053	0.088	0.049	0.063
Study Day:						
Growth Stage:						
Treatment Statistics:						
N	9	9	4	9	6	6
Mean	3.157	3.555	4.204	3.492	3.487	3.476
Var. (S ²)	0.072	0.383	0.227	0.231	0.016	0.241
SEM	0.089	0.206	0.238	0.160	0.051	0.200

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH (Length in cm)
DATA SUMMARY**

	Site 21 (38-VP-2) in Site 42 (WML-2)	Site 30 (38-VP-1) in Site 41 (WML-1)	Site 41 (WML-1) in Site 30 (38-VP-1)	Site 42 (WML-2) in Site 21 (38-VP-2)	Site 41 (WML-1) Reference	Site 42 (WML-2) Reference
Study Day:	132	132	101	122	137	137
Growth Stage:	42	44	39	40	42	44
Treatment Statistics:						
N	2	2	3	2	6	3
Mean	3.818	3.882	4.059	4.908	3.984	3.550
Var. (S ²)	0.894	0.077	0.764	0.726	0.350	0.223
SEM	0.669	0.196	0.505	0.603	0.241	0.273
Treatment Statistics:						
Study Day:	142	na	na	na	147	147
Growth Stage:	42	na	na	na	41	44
Treatment Statistics:						
N	1	na	na	na	2	1
Mean	3.098	na	na	na	3.955	3.427
Var. (S ²)	na	na	na	na	0.425	na
SEM	na	na	na	na	0.461	na

Site 21 (38-VP-2) Sediment PCB =62.0 mg/kg

Site 30 (38-VP-1) Sediment PCB =28.0 mg/kg

Site 41 (WML-1) Sediment PCB =0.007 mg/kg

Site 42 (WML-2) Sediment PCB =0.013 mg/kg

- Comments:**
1. Study Days from the growth data summarized for graphical presentation match the study days on which the corresponding larvae were staged and observed for malformations.
 2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given replicate on a given study day.

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
	1.276	1.538	1.634	1.513	1.238	1.561	1.293	1.730	1.378	1.322
DATE	1.246	1.854	1.415	1.309	1.404	1.614	1.441	1.682	1.379	1.567
04/24/00	1.415	1.484	1.591	1.559	1.441	1.463	1.661	1.511	1.757	1.304
	1.364	1.280	1.365	1.658	1.468	1.527	1.518	1.447	1.474	1.483
STUDY DAY	1.542	1.434	1.648	1.486	1.232	1.615	1.810	1.676	1.298	1.748
6	1.452	1.152	1.615	1.582	1.173	1.223	1.691	1.549	1.559	1.610
	1.276	1.615	1.604	1.667	1.698	1.673	1.539	1.492	1.590	1.582
STAGE	1.610	1.342	1.332	1.865	1.761	1.555	1.828	1.882	1.305	1.431
16	1.497	1.603	1.644	1.455	1.470	1.455	1.349	1.179	1.727	1.619
	1.730	1.536	1.473	1.463	1.616	1.648	1.574	1.517	1.693	1.712
	1.630	1.527	1.505	1.759	1.100	1.759	1.565	1.266	1.659	1.357
	1.332	1.386	1.664	1.424	1.415	1.415	1.481	1.414	1.090	1.366
	1.614	1.272	1.463	1.752	1.461	1.854	1.373	1.531	1.915	1.541
	1.379	1.536	1.650	1.590	1.682	1.225	1.650	1.728	1.440	1.552
	1.497	1.159	1.798	1.687	1.163	1.422	1.561	1.259	1.748	1.658
	1.243	1.265	1.415	1.635	1.386	1.542	1.730	1.558	1.733	1.452
	1.481	1.650	1.786	1.661	1.758	1.516	1.293	1.582	1.418	1.455
	1.215	1.450	1.836	1.807	1.904	1.832	1.527	1.570	1.619	1.635
	1.767	1.800	1.527	1.390	1.610	1.243	1.682	1.590	1.592	1.489
	1.582	1.396	1.836	1.639	1.724	1.050	1.322	1.638	1.592	1.112
	1.259	1.318	1.461	1.409	1.952	1.374	1.494	1.518	1.609	1.521
	1.134	1.404	1.851	1.867	1.549	1.151	1.900	1.877	1.373	1.724
	1.250	1.104	1.745	1.835	1.587	1.426	1.667	1.573	1.874	
	1.357	1.138	1.623	1.484	1.857	1.364		1.542	1.587	
	0.988			1.310	1.775	1.476		1.396	1.307	

Individual Replicate Statistics

N	25	24	24	25	25	25	23	25	25	22
Mean	1.406	1.427	1.604	1.592	1.537	1.479	1.563	1.548	1.549	1.511
Var. (S ²)	0.036	0.040	0.024	0.028	0.058	0.041	0.029	0.029	0.040	0.024
SEM	0.038	0.041	0.031	0.033	0.048	0.040	0.036	0.034	0.040	0.033

Combined Replicate Statistics

N	10
Mean	1.522
Var. (S ²)	0.004
SEM	0.021

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
	2.386	2.674	2.783	2.248	2.289	2.424	3.081	2.644	2.872	3.208
DATE	2.505	2.763	2.382	3.016	2.794	2.750	3.045	2.828	3.418	2.946
05/30/00	2.498	3.042	1.985	2.543	2.249	2.634	2.330	2.478	2.778	3.807
	3.611	2.654	3.406	2.710	2.956	2.737	2.594	2.654	2.608	3.097
STUDY DAY	2.216	2.546	2.903	2.807	3.206	2.697	2.928	3.138	2.506	3.134
42	2.490	2.147	2.535	2.547	3.066	2.668	2.400	2.328	2.601	3.546
	2.561	3.106	2.867	2.393	2.309	2.603	2.853	3.148	2.880	2.456
STAGE	2.441	2.134	2.478	3.399	2.067	3.090	2.583	3.295	1.980	2.596
27	3.226	2.624	2.720	1.962	2.224	2.563	2.601	3.371	2.958	2.785
	2.907	2.759	3.060	2.339	2.300	2.113	2.912	2.475	3.229	2.631
	2.813	2.701	2.779	2.235	2.857	2.857	3.027	3.047	3.120	3.081
	2.468	2.587	2.973	2.570	3.074	2.836	3.513	2.642	2.520	3.135
	2.760	2.259	2.494	2.369	3.167	2.684	3.671	2.878	3.201	3.800
	2.772	3.015	1.939	2.516	2.687	3.107	2.814	2.263	2.968	3.121
	2.404	2.240	2.253	1.913	2.563	2.994	3.369	3.071	2.419	3.406
	2.776	2.746	2.353	2.618	2.669	2.544	3.347	3.231	2.923	2.312
	2.286	2.618	2.055	2.934	2.565	2.043	2.579	2.456	3.000	2.967
	2.615	2.386	2.289	2.756	1.923	3.491	2.286	2.594	2.805	2.654
	2.429	3.103	2.912	2.674	2.269	3.015	3.146	2.596	2.146	2.625
	2.857	2.401	2.720	2.915	2.348		3.475	2.005	2.768	3.247
	2.551	2.198	2.460	2.477	2.550		2.040	2.900	2.779	2.441
	2.825	2.922	2.265	2.513	2.102		2.788	2.527		2.800
	2.285	2.167	2.461	2.303	2.965		3.310	2.962		
	2.601		1.813	2.561	3.052					
	2.989				2.495					

Individual Replicate Statistics

N	25	23	24	24	25	19	23	23	21	22
Mean	2.651	2.600	2.537	2.555	2.590	2.729	2.900	2.762	2.785	2.991
Var. (S ²)	0.099	0.099	0.152	0.108	0.143	0.115	0.187	0.129	0.122	0.174
SEM	0.063	0.066	0.080	0.067	0.076	0.078	0.090	0.075	0.076	0.089

Combined Replicate Statistics

N	10
Mean	2.710
Var. (S ²)	0.023
SEM	0.048

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
	2.880	2.205	3.195	2.611	3.546	3.217	3.276	2.858	3.471	2.792
DATE	2.593	2.540	3.197	3.644	3.144	3.554	3.794	1.960	3.585	2.861
06/26/00	3.046	3.254	4.069	2.370	3.381	2.926	3.903	3.003	2.970	3.337
	1.758	4.561	2.048	2.173	2.526	2.992	3.511	2.312	2.677	3.864
STUDY DAY	3.763	1.848	3.379	3.011	2.392	3.938	2.869	2.785	3.659	3.799
69	3.145	1.582	3.038	2.900	3.733	3.851	2.357	3.345	2.354	2.976
	2.907	1.904	2.190	2.477	3.011	2.949	2.731	3.061	2.809	3.669
STAGE	3.036	1.973	2.777	3.407	3.389	3.829	4.093	2.259	3.439	3.553
29	2.870	3.329	3.590	2.890	2.117	2.794	2.965	3.030	3.248	3.485
	2.682	2.359	3.276	3.719	3.707	3.538	3.377	3.326	4.082	3.606
	3.765	2.383	3.560	3.362	3.766	3.248	3.580	2.904		3.241
	3.223	2.907	2.637	2.293	2.160	3.337	3.269	2.439		4.050
	3.254	1.805	3.070	3.029	3.597	3.523	3.118	2.530		3.375
	2.602	4.093	2.733	2.268	3.127	3.293	3.381	2.879		3.726
	2.644	2.487	2.357	2.670	2.164	2.600	3.748	2.947		3.621
	3.010	3.391	3.773	2.979	3.194		3.453	3.371		3.519
	3.127	2.928	2.563	2.928	3.286		3.983	2.483		3.727
	2.822	2.628	3.289	2.344	3.319		2.709	3.254		
	2.772	3.560	3.375	3.103	2.254		2.057	4.040		
	2.435	2.293	2.308	2.965	3.491		3.630	3.144		
	2.604		3.351	2.840	3.173			2.570		
			1.930	2.560	3.673					
					3.127					
					2.325					
					3.779					
<hr/>										
Individual Replicate Statistics										
N	21	20	22	22	25	15	20	21	10	17
Mean	2.902	2.702	2.987	2.843	3.095	3.306	3.290	2.881	3.229	3.482
Var. (S ²)	0.191	0.635	0.338	0.192	0.323	0.163	0.295	0.221	0.273	0.123
SEM	0.095	0.178	0.124	0.093	0.114	0.104	0.121	0.103	0.165	0.085
Combined Replicate Statistics										
N	10									
Mean	3.072									
Var. (S ²)	0.062									
SEM	0.079									

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
	3.677	3.538	3.020	2.214	2.877	1.594		3.010	2.702	3.713
DATE	3.509	2.338	2.332	2.558	4.027	3.823		2.754	3.846	3.161
07/27/00	2.904	2.627	2.918	3.006	3.828	2.914		3.204	3.784	3.519
	2.478	3.559	2.692	3.323	3.609	3.501		3.851	3.786	
STUDY DAY	2.056	3.678	2.439	2.641	2.026	3.619		2.368		
100	2.729	3.947	3.139	2.263	2.853	4.445		2.001		
	3.113	3.139	3.398	2.892	3.313			3.332		
STAGE	3.188	3.034	3.259	2.783	3.876			3.051		
42	2.594		3.322	1.885	3.170			3.380		
	3.143		3.108	2.627	2.463					
	2.588		2.593	2.908						
	3.704		3.907	2.942						
			2.632	2.975						
			2.752	3.308						
			3.675	2.471						
			3.056	2.105						

Individual Replicate Statistics

N	12	8	16	16	10	6	0	9	4	3
Mean	2.973	3.232	3.015	2.681	3.204	3.316	na	2.995	3.530	3.464
Var. (S^2)	0.259	0.303	0.191	0.173	0.429	0.957	na	0.310	0.305	0.079
SEM	0.147	0.195	0.109	0.104	0.207	0.399	na	0.186	0.276	0.162

Combined Replicate Statistics

N	9
Mean	3.157
Var. (S^2)	0.072
SEM	0.089

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
DATE		4.375		3.598						
08/28/00		4.598		2.622						
				3.545						
				3.457						
STUDY DAY				2.911						
132				3.771						
				3.183						
STAGE				2.242						
42				3.330						
				2.833						

Individual Replicate Statistics

N	0	2	0	10	0	0	0	0	0	0
Mean	na	4.486	na	3.149	na	na	na	na	na	na
Var. (S ²)	na	0.025	na	0.237	na	na	na	na	na	na
SEM	na	0.111	na	0.154	na	na	na	na	na	na

Combined Replicate Statistics

N	2
Mean	3.818
Var. (S ²)	0.894
SEM	0.669

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT

	Tub 11	Tub 12	Tub 13	Tub 14	Tub 15	Tub 16	Tub 17	Tub 18	Tub 19	Tub 20
DATE				2.946						
09/07/00				3.250						
STUDY DAY										
142										
STAGE										
42										

Individual Replicate Statistics

N	0	0	0	2	0	0	0	0	0	0
Mean	na	na	na	3.098	na	na	na	na	na	na
Var. (S ²)	na	na	na	0.046	na	na	na	na	na	na
SEM	na	na	na	0.152	na	na	na	na	na	na

Combined Replicate Statistics

N	1
Mean	3.098
Var. (S ²)	na
SEM	na

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
	1.531	1.884	1.366	1.639	1.483	1.899	1.902	1.276	1.232	1.597
DATE	1.296	1.546	1.916	1.146	1.320	1.616	1.002	1.562	1.033	1.990
04/24/00	2.216	1.627	1.622	1.283	1.492	1.718	1.780	1.968	1.876	1.790
	1.836	1.266	1.073	1.558	1.857	2.254	1.837	2.083	2.103	1.691
STUDY DAY	1.713	1.390	1.897	1.696	1.966	1.331	1.869	1.730	2.226	1.483
6	1.684	1.313	1.673	2.045	1.728	2.018	1.320	1.673	1.455	1.712
	1.497	1.894	1.497	2.420	1.449	1.737	1.659	2.076	1.658	2.037
STAGE	1.304	1.909	1.587	1.440	1.836	1.767	1.612	1.531	1.890	1.956
22	1.724	1.775	1.627	1.470	2.014	1.767	1.488	1.648	1.917	1.999
	1.265	1.431	1.318	2.123	2.038	1.852	1.962	1.993	1.815	1.936
	1.587	1.708	1.659	2.121	1.805	2.263	1.859	1.884	1.989	1.558
	1.300	2.024	1.970	2.062	1.820	1.943	2.070	1.860	1.381	1.515
	2.259	1.698	1.718	1.929	1.805	1.961	1.650	1.656	1.824	1.691
	1.524	1.854	1.343	1.576	1.777	1.907	1.527	1.926	2.000	1.426
	1.701	1.325	1.875	1.597	1.590	1.468	1.759	1.879	1.588	1.645
	2.040	1.454	1.924	1.422	2.173	1.781	2.062	1.651	1.345	1.603
	2.269	1.276	1.464	1.846	2.160	1.840	1.716	1.373	1.741	1.857
	1.243	1.759	1.614	1.597	2.035	2.083	1.985	1.913	1.541	1.567
	2.192	1.454	2.056	1.987	2.057	1.915	2.031	1.817	2.091	1.789
	2.015	1.727	1.916	1.798	1.071	1.745	1.876	1.908	2.104	2.360
	1.866	1.318	1.609	1.311	1.542	2.115	1.196	1.610	1.655	2.036
	2.193	1.390	1.429		1.644	1.582	1.600	1.759	1.592	1.625
	1.512	1.741	1.851		2.160	2.251	1.724			2.018
	1.503	1.483	1.444		1.746		1.856			1.882
	1.707						1.838			1.532

Individual Replicate Statistics

N	25	24	24	21	24	23	25	22	22	25
Mean	1.719	1.593	1.644	1.718	1.774	1.862	1.727	1.763	1.730	1.772
Var. (S ²)	0.113	0.054	0.062	0.109	0.081	0.058	0.070	0.046	0.098	0.052
SEM	0.067	0.048	0.051	0.072	0.058	0.050	0.053	0.046	0.067	0.046

Combined Replicate Statistics

N	10
Mean	1.730
Var. (S ²)	0.005
SEM	0.023

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
	1.942	1.748	2.036	2.517	3.148	2.550	3.116	3.079	2.058	1.962
DATE	3.390	2.385	2.776	2.367	2.113	2.711	3.044	2.490	2.030	2.366
05/30/00	3.024	2.778	2.357	2.985	2.832	3.683	3.202	2.681	2.697	2.645
	2.982	2.655	1.976	2.999	2.656	3.302	2.529	2.257	2.285	2.214
STUDY DAY	2.613	3.490	3.357	3.097	2.950	3.127	3.188	2.352	2.929	2.618
42	2.588	2.685	2.243	2.761	2.842	2.899	2.813	3.604	2.071	2.076
	2.903	2.425	3.121	3.489	2.303	2.346	3.039	3.359	2.269	2.266
STAGE	2.618	2.770	2.465	3.053	3.142	1.953	2.623	2.915	2.544	2.009
28	3.285	2.149	2.557	2.660	3.110	3.729	2.390	3.030	3.264	2.209
	3.175	2.742	2.918	3.164	2.573	1.552	3.119	3.108	1.867	2.613
	1.871	2.949	2.685	2.910	2.849	3.252	3.093	3.234	2.470	1.992
	1.742	2.409	2.889	2.825	2.809	3.346	2.839	3.036	2.360	3.216
	2.410	3.084	2.663	2.597	2.501	3.116	2.673	3.444	2.828	2.303
	2.623	2.842	3.005	2.425	2.921	3.096	2.997	2.943	2.069	2.806
	2.578	2.079	1.871	2.870	3.498	2.582	2.352	2.427	2.684	2.530
	2.555	2.165	2.849	2.112	2.052	2.153	2.516	2.871	3.469	2.873
	3.097	2.438	2.971	2.177	2.493	2.425	2.850	2.832	2.872	2.541
	2.776	2.030	2.856	2.867	2.594	2.961	2.573	2.613	3.468	1.602
	3.421	2.529	3.309	3.502	2.793	3.098	2.484	3.169	2.125	2.348
	3.159	2.626	2.407	2.222	2.995	2.997	2.043		3.002	2.473
	2.972	2.499	2.949	3.112	2.785	2.307	2.292		2.578	2.821
	2.309	3.024	3.326		2.516		2.958		3.355	2.648
	2.678	2.915	2.652		3.195		2.929			2.106
	2.484		2.838		2.237		3.019			2.227
	2.580									2.339

Individual Replicate Statistics

N	25	23	24	21	24	21	24	19	22	25
Mean	2.711	2.583	2.712	2.796	2.742	2.818	2.778	2.918	2.604	2.392
Var. (S^2)	0.199	0.156	0.169	0.156	0.130	0.312	0.104	0.141	0.246	0.123
SEM	0.089	0.082	0.084	0.086	0.074	0.122	0.066	0.086	0.106	0.070

Combined Replicate Statistics

N	10
Mean	2.705
Var. (S^2)	0.022
SEM	0.047

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
	3.294	3.195	2.959	3.049	3.013	3.162	2.444	3.883	3.456	2.828
DATE	3.957	4.049	3.424	2.709	2.148	2.883	3.326	2.100	3.592	3.285
06/26/00	3.243	3.603	2.901	4.048	3.712	4.531	3.297	4.171	3.425	2.449
	3.755	2.897	3.271	2.637	3.085	3.738	3.588	3.568	3.596	3.523
STUDY DAY	3.847	3.414	3.686	3.011	3.273	3.151	3.588	3.144	3.428	3.280
69	2.759	3.958	3.854	3.338	2.700	3.704	2.308	3.733	3.417	3.588
	3.631	3.084	4.940	1.467	2.759	3.639	1.536	2.350	3.929	2.708
STAGE	4.069	3.106	3.207	3.644	3.162	3.242	3.370	2.656	3.390	3.592
40	2.114	3.206	2.934	2.761	2.475	3.057	3.331	3.248	3.206	2.809
	3.094	3.518	3.174	3.619	2.429	3.138	3.259	2.563	3.298	2.407
	2.712	3.060	2.452	3.145	2.628	3.212	3.644	3.293	3.533	2.182
	3.539	2.621	3.293	3.774	3.136	3.448	2.914	3.341	3.192	3.084
	3.577	3.217	3.562	2.862	2.544	2.190	3.146		3.610	3.277
	2.438	3.531	3.736	3.548	2.554	2.985	2.427		3.345	2.967
	3.625	2.917	2.885	3.343	2.623	3.501	3.007		2.317	1.897
	3.487	4.175	3.028	3.187	2.622	3.359	3.407		3.362	2.983
	3.273	3.152	3.540	3.567	3.273	3.886	3.162		3.104	3.246
	3.807	3.091	3.331		2.825	3.926	4.071		3.606	3.849
		1.990	3.291		2.596	3.719	3.266			2.779
		3.322	3.179		2.985		3.808			3.588
		1.588	3.560		2.668		3.372			2.738
					2.805					2.421
					3.112					3.153
										3.023

Individual Replicate Statistics

N	18	21	21	17	23	19	21	12	18	24
Mean	3.346	3.176	3.343	3.159	2.832	3.393	3.156	3.171	3.378	2.986
Var. (S ²)	0.292	0.365	0.246	0.351	0.124	0.247	0.330	0.408	0.107	0.239
SEM	0.127	0.132	0.108	0.144	0.073	0.114	0.125	0.184	0.077	0.100

Combined Replicate Statistics

N	10
Mean	3.194
Var. (S ²)	0.033
SEM	0.057

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
	3.619	3.201	4.173		3.307	4.821	2.973	3.518	3.324	3.264
DATE	4.473	3.226			2.378		3.751	3.582	4.204	3.005
07/27/00	3.467	3.699			2.113		3.801		3.064	3.041
	3.660	3.320			3.211		3.516		3.549	3.002
STUDY DAY		3.646			3.516		2.942		1.789	3.462
100		2.867			2.535				2.556	3.412
		1.730			2.573				3.009	2.876
STAGE		2.762			3.894					2.445
42		3.469			2.949					3.608
		3.560			3.449					1.750
		2.890			2.437					2.699
		3.781			3.005					3.047
		3.184			3.429					
		2.801			3.207					
		3.433			3.767					
					3.345					
					2.888					
					3.406					
					2.764					
					2.631					

Individual Replicate Statistics

N	4	15	1	0	20	1	5	2	7	12
Mean	3.805	3.171	4.173	na	3.040	4.821	3.397	3.550	3.071	2.967
Var. (S ²)	0.205	0.269	na	na	0.240	na	0.172	0.002	0.582	0.254
SEM	0.227	0.134	na	na	0.110	na	0.186	0.032	0.288	0.145

Combined Replicate Statistics

N	9
Mean	3.555
Var. (S ²)	0.383
SEM	0.206

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT

	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
		4.079								3.686
DATE										
08/28/00										
STUDY DAY										
132										
STAGE										
44										

Individual Replicate Statistics

N	0	1	0	0	0	0	0	0	0	1
Mean	na	4.079	na	na	na	na	na	na	na	3.686
Var. (S ²)	na	na	na	na	na	na	na	na	na	na
SEM	na	na	na	na	na	na	na	na	na	na

Combined Replicate Statistics

N	2
Mean	3.882
Var. (S ²)	0.077
SEM	0.196

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

	Tub 21	Tub 22	Tub 23	Tub 24	Tub 25	Tub 26	Tub 27	Tub 28
	1.639	1.902	2.224	2.177	2.105	1.341	1.490	1.617
DATE	2.057	1.634	1.561	1.980	1.981	1.417	2.165	1.734
04/26/00	1.968	2.067	2.076	1.787	2.071	2.247	1.551	1.732
	1.614	2.130	2.056	2.112	2.056	1.970	1.839	1.897
STUDY DAY	1.085	2.130	2.172	1.612	2.172	2.283	2.043	1.406
2	1.927	2.045	1.974	1.688	2.098	2.007	2.071	1.405
	1.646	2.138	2.208	1.874	1.804	1.567	2.105	2.272
STAGE	1.778	2.224	2.087	2.043	1.704	2.235	1.613	1.628
24	2.033	1.938	1.967	1.897	2.073	1.834	1.983	1.226
	1.730	1.556	2.173	1.507	1.834	2.287	2.249	2.162
	1.772	1.804	1.833	2.177	1.752	2.312	2.069	1.894
	1.827	1.752	2.289	1.562	2.043	1.865	2.051	2.133
	1.529	2.133	1.997	2.062	1.909	1.973	1.581	1.769
	2.361	2.212	2.099	2.149	2.333	1.940	1.963	2.092
	1.581	2.108	1.584	1.981	2.018	2.167	1.424	2.069
	2.038	1.951	1.698	2.038	2.127	1.561	1.479	1.981
	1.744	1.907	2.030	2.054	1.690	1.835	1.973	1.754
	1.602	1.584	1.951	2.081	2.099	1.968	1.951	
	2.040	1.688	2.001	1.765	2.287	2.088	1.740	
	1.417	2.092	1.952	1.551	2.070	2.228	1.811	
	1.909	1.732	2.028	2.076	1.975	2.168	1.859	
	2.127	1.768	2.080	1.980	2.032	2.001	1.476	
		1.927	2.047	1.865	2.057	2.092	2.191	
		2.040	2.034	2.286	2.200	1.655	1.924	
		2.081		1.985	2.632			

Individual Replicate Statistics

N	22	25	24	25	25	24	24	17
Mean	1.792	1.942	2.005	1.932	2.045	1.960	1.858	1.810
Var. (S ²)	0.077	0.041	0.033	0.046	0.042	0.079	0.065	0.087
SEM	0.059	0.040	0.037	0.043	0.041	0.057	0.052	0.071

Combined Replicate Statistics

N	8
Mean	1.918
Var. (S ²)	0.008
SEM	0.032

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

	Tub 21	Tub 22	Tub 23	Tub 24	Tub 25	Tub 26	Tub 27	Tub 28
	1.699	3.234	2.395	2.705	1.998	2.321	2.825	3.406
DATE	2.985	3.036	3.546	2.247	2.747	2.409	3.341	3.480
05/26/00	1.951	2.200	2.150	2.269	2.795	3.155	2.038	3.003
	1.887	2.582	2.550	3.023	2.684	2.319	2.445	3.397
STUDY DAY	2.746	2.192	1.851	3.192	2.976	2.318	2.146	2.167
32	1.910	2.161	2.657	2.283	2.484	2.945	3.226	2.584
	2.104	2.312	3.297	3.437	2.955	3.034	2.637	2.994
STAGE	2.871	2.804	3.042	1.939	2.654	2.408	2.373	3.448
28	1.834	3.064	2.385	1.998	3.306	3.027	2.804	2.547
	2.464	3.110	3.287	2.743	2.635	2.787	3.109	3.238
	2.535	2.634	2.478	2.029	2.522	2.922	3.064	2.772
	2.784	2.617	1.941	2.395	2.522	2.212	2.390	2.415
	2.998	2.582	3.131	2.626	2.254	2.555	2.541	
	2.723	2.927	2.541	2.758	2.437	2.273	2.879	
	3.008	2.422	2.452	2.806	2.693	1.936	3.069	
	3.015	3.020	2.430	2.605	2.603	3.308	2.826	
	2.985	1.768	2.635	2.225	2.500	2.293	2.271	
	2.934	2.641	3.167	2.578	2.610	2.265	2.895	
	2.647	2.985	2.720	2.541	2.973	3.007	3.066	
	2.384	3.213	3.277	1.863	2.594	3.339	2.554	
	2.773	2.767	2.635	2.484	3.424	3.086	1.655	
			2.327	1.789	2.368	2.953	2.310	
			2.638	2.994	1.968	1.714	2.514	
				2.514			2.437	
				2.271				

Individual Replicate Statistics

N	21	21	23	25	23	23	24	12
Mean	2.535	2.680	2.675	2.493	2.639	2.634	2.642	2.954
Var. (S ²)	0.206	0.157	0.202	0.174	0.119	0.204	0.169	0.205
SEM	0.099	0.086	0.094	0.083	0.072	0.094	0.084	0.131

Combined Replicate Statistics

N	8
Mean	2.657
Var. (S ²)	0.019
SEM	0.049

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

	Tub 21	Tub 22	Tub 23	Tub 24	Tub 25	Tub 26	Tub 27	Tub 28
	2.910		3.048	1.966	2.880	3.444	2.098	
DATE	3.277		3.659	2.910	2.944	3.035	2.852	
06/23/00	3.288		2.072	2.637	2.560	3.634	3.926	
	3.124		2.608	2.793	3.215	2.200	3.442	
STUDY DAY	2.128		3.306	2.868	3.328	2.695	3.501	
60	3.462		2.879	2.967	3.088	2.902	2.877	
	3.687		2.510	4.030	3.254	2.047	3.212	
STAGE			3.687	3.312	2.159	2.942	3.985	
34			2.705	3.222	2.701	3.214	3.215	
				3.426	2.932	2.508	3.695	
				2.529	3.044	3.050	3.176	
				2.762	2.056	2.133	2.712	
				3.054	3.045	2.018	3.187	
				2.345	2.817	3.244	3.046	
				2.703	2.559	2.931	2.348	
				3.233	3.253	3.111	2.280	
				2.657	2.937	2.735		
				2.750				
				2.329				

Individual Replicate Statistics

N	7	0	9	19	17	17	16	0
Mean	3.125	na	2.942	2.868	2.869	2.814	3.097	na
Var. (S ²)	0.253	na	0.291	0.212	0.134	0.239	0.310	na
SEM	0.190	na	0.180	0.106	0.089	0.119	0.139	na

Combined Replicate Statistics

N	6
Mean	2.952
Var. (S ²)	0.017
SEM	0.053

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

	Tub 21	Tub 22	Tub 23	Tub 24	Tub 25	Tub 26	Tub 27	Tub 28
DATE				2.833	4.188	5.235	3.996	
07/24/00				3.467	4.648	5.001	4.216	
				4.142		3.874		
				3.597				
STUDY DAY				2.566				
91				4.403				
				4.456				
STAGE				3.167				
39				3.682				

Individual Replicate Statistics

N	0	0	0	9	2	3	2	0
Mean	na	na	na	3.590	4.418	4.703	4.106	na
Var. (S ²)	na	na	na	0.443	0.106	0.530	0.024	na
SEM	na	na	na	0.222	0.230	0.420	0.110	na

Combined Replicate Statistics

N	4
Mean	4.204
Var. (S ²)	0.227
SEM	0.238

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I *RANA sylvatica* DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT

	Tub 21	Tub 22	Tub 23	Tub 24	Tub 25	Tub 26	Tub 27	Tub 28
DATE				2.693	3.994	4.963		
08/04/00				3.708				
				2.879				
				3.595				
STUDY DAY								
101								
STAGE								
39								

Individual Replicate Statistics

N	0	0	0	4	1	1	0	0
Mean	na	na	na	3.219	3.994	4.963	na	na
Var. (S ²)	na	na	na	0.258	na	na	na	na
SEM	na	na	na	0.254	na	na	na	na

Combined Replicate Statistics

N	3
Mean	4.059
Var. (S ²)	0.764
SEM	0.505

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

	Tub 31	Tub 32	Tub 33	Tub 34	Tub 35	Tub 36	Tub 37	Tub 38	Tub 39	Tub 40
	1.822	1.701	1.868	2.152	1.467	1.767	1.653	1.487	1.888	2.134
DATE	1.434	1.461	2.028	1.871	1.572	1.678	1.227	1.836	1.774	1.938
04/26/00	1.618	2.079	1.600	1.625	1.524	1.713	1.558	1.444	1.327	2.111
	1.392	2.167	1.816	2.057	1.342	1.944	1.110	1.805	1.628	1.611
STUDY DAY	1.584	1.934	1.601	1.876	1.613	1.606	1.634	1.357	2.040	1.969
2	1.294	1.650	1.446	1.255	1.473	1.534	1.855	1.782	1.712	1.820
	2.001	1.562	1.102	1.461	2.067	1.666	1.667	1.636	2.260	2.054
STAGE	1.746	2.434	1.642	1.370	1.544	1.834	1.258	1.410	1.434	1.585
23	2.146	1.655	1.649	1.467	1.707	1.729	1.595	1.989	1.819	1.635
	1.302	1.740	1.647	1.452	1.603	1.590	1.600	1.500	1.729	1.716
	1.704	2.031	1.509	1.402	1.487	1.348	1.750	1.602	1.501	1.821
	1.674	1.544	1.537	1.573	1.803	1.614	1.670	1.678	2.006	1.523
	1.749	1.618	1.635	1.635	1.271	1.530	1.381	1.391	1.726	1.760
	1.765	1.424	1.432	1.418	1.985	1.674	1.609	1.732	1.647	1.750
	1.903	1.896	1.480	1.213	1.421	1.907	1.541	1.690	1.685	1.342
	1.833	1.814	1.700	1.606	1.572	2.242	1.725	2.162	1.458	1.561
	1.869	1.635	1.805	1.424	1.939	1.934	1.402	1.803	1.805	1.838
	1.888	1.771	1.554	2.319	1.568	1.735	1.334	1.841	2.000	1.476
	1.914	1.421		1.405	1.167	1.440	1.736	1.775	1.667	1.646
	2.067	2.079		1.640	1.461	1.747	1.836	1.536	1.537	1.500
	1.345	1.462		1.612	2.102	1.871	1.857	1.814	1.498	1.682
	1.182	1.754		1.634	1.529	1.953		1.668	1.510	1.649
	1.934	1.867			1.891	1.687			1.635	

Individual Replicate Statistics

N	23	23	18	22	23	23	21	22	23	22
Mean	1.703	1.770	1.614	1.612	1.613	1.728	1.571	1.679	1.708	1.733
Var. (S ²)	0.072	0.069	0.040	0.081	0.061	0.038	0.045	0.041	0.050	0.045
SEM	0.056	0.055	0.047	0.061	0.052	0.041	0.046	0.043	0.047	0.045

Combined Replicate Statistics

N	10
Mean	1.673
Var. (S ²)	0.004
SEM	0.021

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

	Tub 31	Tub 32	Tub 33	Tub 34	Tub 35	Tub 36	Tub 37	Tub 38	Tub 39	Tub 40
	2.734	2.908	2.167	2.579	2.206	2.043	1.894	2.145	1.487	1.966
DATE	2.889	2.193	2.073	3.068	2.527	1.700	2.242	1.887	2.073	2.237
05/26/00	2.154	2.335	2.953	1.865	2.015	2.207	1.678	2.489	1.894	2.434
	2.335	2.390	2.550	2.273	1.997	1.969	3.073	3.101	2.500	2.676
STUDY DAY	2.142	2.667	2.569	1.598	2.361	2.302	2.502	1.980	2.309	1.820
32	3.688	2.555	2.800	1.709	3.206	2.626	1.750	2.688	2.907	2.531
	2.734	2.263	2.216	2.496	2.154	2.539	2.416	2.304	1.870	2.603
STAGE	2.429	2.608	2.241	2.511	2.434	2.430	1.952	1.896	1.771	2.007
30	2.349	2.236	2.478	2.481	2.539	2.267	3.106	2.175	2.775	2.332
	2.710	2.071	2.045	1.795	2.287	2.534	2.616	1.983	2.271	2.472
	2.737	2.625	2.994	2.734	2.336	2.867	2.520	2.640	2.498	2.522
	2.126	2.321	2.597	1.857	2.566	2.740	2.385	2.608	2.272	2.459
	2.813	2.291	2.191	2.899	3.344	1.971	2.749	2.774	2.007	2.386
	1.640	2.836	2.437	1.678	2.335	2.287	2.475	2.667	2.506	2.491
	2.249	2.428	2.513	2.370	3.061	2.407	3.117	2.296	2.001	2.267
	2.431	2.334	2.162	2.720	2.340	2.506	2.973	2.466	2.151	2.779
	2.994	2.481	2.411	2.130	2.378	2.539	2.390	2.251	2.421	2.282
	2.705	1.953		2.626	1.815	2.224	2.603	2.393	2.583	2.555
	2.569	2.730		2.590	2.386	2.142	2.567	2.224	2.416	2.340
	2.034	3.011		2.609	2.902	2.687		2.810	2.230	2.373
	1.989	1.894		2.380	2.367	2.773		2.523	2.784	
	2.395	2.149		1.866	1.787	2.209		2.427	1.550	
	2.970	2.835			2.066					

Individual Replicate Statistics

N	23	23	17	22	23	22	19	22	22	20
Mean	2.514	2.440	2.435	2.311	2.409	2.362	2.474	2.397	2.240	2.376
Var. (S ²)	0.187	0.092	0.085	0.185	0.162	0.088	0.188	0.102	0.147	0.057
SEM	0.090	0.063	0.071	0.092	0.084	0.063	0.099	0.068	0.082	0.053

Combined Replicate Statistics

N	10
Mean	2.396
Var. (S ²)	0.006
SEM	0.025

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

	Tub 31	Tub 32	Tub 33	Tub 34	Tub 35	Tub 36	Tub 37	Tub 38	Tub 39	Tub 40
	2.825	2.224	2.170	2.426	3.252	2.631	3.517	2.602	2.271	2.737
DATE	2.497	2.305	3.558	3.503	2.334	2.252	3.652	2.161	3.287	3.021
06/23/00	2.958	3.229	3.634	2.289	3.179	2.354	2.969	2.632	3.000	2.738
	3.076	3.732	3.688	2.494	3.183	3.003	4.173	2.566	3.197	2.773
STUDY DAY	3.247	2.894	3.382	3.370	3.883	2.229	3.456	2.544	1.684	2.967
60	3.312	2.652	3.640	2.587	2.663	1.639	3.381	3.565	2.870	3.088
	2.107	3.136	2.731	2.440	2.969	1.882	3.073	2.517	2.779	2.083
STAGE	2.956	3.119	3.603	3.279	2.685	2.611	3.523	1.444	2.409	3.108
44	2.781	3.483	2.986	3.165	2.331	3.319	2.623	1.579	3.469	2.625
	1.757	2.643	3.408	3.254	3.173	3.637	4.159	2.716	2.632	3.108
	3.540	2.720	3.345	2.594	2.822	3.686	2.640	3.197	2.537	3.217
	2.192	3.793	3.365	3.030	3.188	3.135	3.165	2.546	2.024	3.025
	2.946	3.439	3.120	2.608	3.050	3.175	2.768	1.621	2.380	2.468
	3.011	2.807	4.412	3.470	2.502	2.847	3.875	2.248	2.879	2.690
	3.871	2.910		3.462	3.387	2.302	2.730	3.212	2.072	2.867
	3.443	2.865		3.162	2.135	2.284	3.746	2.241	2.653	2.827
	2.402	3.485		2.876	3.568	2.409	4.017	3.483	2.391	3.049
	2.863	3.029		3.046	2.485	1.934		2.640	3.641	3.165
	3.138	3.581		2.199	1.999	3.228		3.242	2.813	
	2.950	2.920		2.485		3.690		2.573	2.067	
	2.444					2.345		2.125		

Individual Replicate Statistics

N	21	20	14	20	19	21	17	21	20	18
Mean	2.872	3.048	3.360	2.887	2.884	2.695	3.380	2.545	2.653	2.864
Var. (S ²)	0.255	0.194	0.268	0.189	0.255	0.375	0.273	0.342	0.262	0.081
SEM	0.110	0.099	0.138	0.097	0.116	0.134	0.127	0.128	0.114	0.067

Combined Replicate Statistics

N	10
Mean	2.919
Var. (S ²)	0.077
SEM	0.088

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

	Tub 31	Tub 32	Tub 33	Tub 34	Tub 35	Tub 36	Tub 37	Tub 38	Tub 39	Tub 40
	3.606	4.064		2.920	4.335	2.476	2.951	3.922	3.053	3.041
DATE	3.228	3.924		3.184	4.070	3.923	4.070	2.206	2.752	3.681
07/24/00	4.604			2.911	3.772	4.091	4.495	3.728	4.302	3.485
	3.337			3.140	3.819	3.176	4.884	2.113	2.818	2.967
STUDY DAY	3.489			3.127	3.875	2.583	4.119	3.053	2.404	3.404
91	6.071			3.653		3.911	3.423	3.333	2.736	3.997
	3.716			2.912		2.973		1.674	3.129	2.461
STAGE	4.014			2.967		2.198		2.452	2.615	3.628
46				4.212		2.863		3.403	3.727	3.705
				1.886		2.900		3.623	3.049	1.892
										3.490

Individual Replicate Statistics

N	8	2	0	10	5	10	6	10	10	11
Mean	4.008	3.994	na	3.091	3.974	3.109	3.990	2.951	3.058	3.250
Var. (S ²)	0.884	0.010	na	0.350	0.054	0.434	0.496	0.610	0.320	0.382
SEM	0.332	0.070	na	0.187	0.104	0.208	0.287	0.247	0.179	0.186

Combined Replicate Statistics

N	9
Mean	3.492
Var. (S ²)	0.231
SEM	0.160

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT

	Tub 31	Tub 32	Tub 33	Tub 34	Tub 35	Tub 36	Tub 37	Tub 38	Tub 39	Tub 40
DATE							5.511	3.536		
08/24/00								5.075		
STUDY DAY										
122										
STAGE										
40										
<hr/>										
Individual Replicate Statistics										
N	0	0	0	0	0	0	1	2	0	0
Mean	na	na	na	na	na	na	5.511	4.306	na	na
Var. (S ²)	na	na	na	na	na	na	na	1.183	na	na
SEM	na	na	na	na	na	na	na	0.769	na	na
Combined Replicate Statistics										
N	2									
Mean	4.908									
Var. (S ²)	0.726									
SEM	0.603									

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	0.799	0.935	0.950	0.807	0.991	0.706
DATE	0.902	0.718	0.678	0.904	0.901	0.856
04/13/00	0.727	0.914	0.784	0.885	0.867	0.886
	0.652	0.812	0.742	0.965	0.957	0.913
STUDY DAY	0.914	0.731	0.687	0.770	0.922	0.891
0	0.795	0.827	0.720	0.715	1.060	0.783
	0.714	0.779	0.772	0.832	0.881	0.784
STAGE	0.839	0.706	0.828	0.797	0.708	0.856
	0.706	0.801	0.691	0.862	0.845	0.709
	0.726	0.744	0.638	0.921	0.913	0.807
	0.714	0.804	0.690	0.775	0.942	0.803
	0.626	0.768	0.666	0.718	0.817	0.958
	0.829	0.796	0.793	0.868	0.950	0.804
	0.742	0.715	0.744	0.689	0.742	0.762
	0.744	0.808	0.896	0.851	0.977	0.902
	0.765	0.656	0.705	0.685	0.896	0.982
	0.803	0.815	0.699	0.910	0.952	0.801
	0.765	1.009	0.817	0.828	0.910	0.779
	0.799	0.626	0.782	0.753	0.957	0.817
	0.754	0.747	0.647	0.727	0.833	1.017
	0.765	0.744	0.747	1.014	0.807	0.924
	0.856	0.578	0.657	0.957	0.747	0.771
	0.731	0.794	0.839	0.694	0.817	0.885
	0.641	0.907	0.860	0.804	0.787	0.628
	0.614	0.795	0.779	0.950	0.817	0.644
	0.691	0.842	0.779	0.973	0.847	0.759
	0.706	0.757	0.744	0.797	0.896	0.715
	0.762	0.941	0.718	0.930	0.803	0.659
	0.860	0.702	0.730	0.657	0.811	0.749
	0.832	0.772	0.742	0.612	0.685	0.541
	0.817	0.862	0.896	0.795	0.675	0.644
	0.843	0.715	0.877	0.839	0.867	0.776
	0.772	0.705	0.760	0.772	0.674	0.705
	0.740	0.659	0.790	0.571	0.947	0.591
	0.685	0.772	0.722	0.876	0.884	0.823
	0.678	0.536	0.633	0.804	0.772	0.663
	0.731	0.832	0.526	0.900	0.860	0.883
	0.831	0.839	0.797	0.942	0.811	0.718
	0.659	0.709	0.722	0.832	0.760	0.960
	0.656	0.828	0.812	0.896	0.839	0.733
	0.690	0.893	0.799	0.828	0.747	0.828
	0.722	0.788	0.799	0.839	0.867	0.818
	0.668	0.742	0.768	0.901	0.789	0.815
	0.807	0.789	0.715	0.902	0.714	0.807
	0.811	0.813	0.759	0.973	0.699	0.842
	0.604	0.816	0.761	0.934	0.686	0.829
	0.754	0.942	0.852	0.871	0.770	0.867
	0.698	0.742	0.929	0.931	0.822	0.884
	0.784	0.782	0.846	0.907	0.799	0.744
	0.864	1.002	0.744	0.860	0.756	0.694

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
0.858	0.783	0.630	0.922	0.839	0.783
0.858	0.793	0.829	0.747	0.910	0.944
0.864	0.856	0.727	0.889	0.847	0.869
0.789	0.779	0.776	0.747	0.873	0.754
0.673	0.883	0.718	0.842	0.876	0.772
0.631	0.740	0.784	0.763	0.950	0.699
0.694	0.848	0.834	0.651	0.944	0.731
0.784	1.029	0.807	0.789	0.832	0.690
0.747	0.783	0.823	0.910	0.871	0.760
0.670	0.744	0.633	0.791	0.722	0.691
0.847	0.889	0.827	0.815	0.863	0.628
0.768	0.921	0.886	0.803	0.829	0.921
0.668	0.832	0.733	0.848	0.829	0.742
0.829	0.714	0.747	0.869	0.902	0.587
0.758	0.690	0.715	0.888	0.791	0.675
0.718	0.742	0.726	0.799	0.750	0.749
0.742	0.783	0.715	0.708	0.908	0.742
0.639	0.779	0.856	0.842	0.706	0.817
0.788	0.594	0.640	0.919	0.901	0.668
0.869	0.957	0.851	0.788	0.841	0.756
0.783	0.797	0.761	0.868	0.892	0.690
0.776	0.974	0.723	0.811	0.731	0.833
0.762	0.913	0.772	0.910	0.886	0.715
0.832	0.796	0.868	0.970	0.848	0.753
0.920	0.921	0.919	0.689	0.892	0.690
0.718	0.806	0.771	0.844	0.868	0.927
0.829	0.858	0.706	0.787	0.843	0.771
0.827	0.807	0.808	0.896	0.817	0.755
0.862	0.805	0.656	0.841	0.892	0.687
0.827	0.965	0.700	0.755	0.871	0.807
0.986	0.685	0.836	0.775	0.975	0.790
0.826	0.612	0.768	0.880	0.879	0.733
0.847	0.689	0.961	0.747	0.714	0.807
0.832	0.471	0.753	0.885	0.742	0.628
0.817	0.727	0.799	0.967	0.715	0.623
0.868	0.702	0.776	0.916	0.851	0.622
0.725	0.889	0.668	0.736	0.753	0.694
0.663	0.847	0.804	0.895	0.761	0.694
0.705	0.960	0.789	0.747	0.727	0.709
0.770	0.528	0.720	0.782	0.789	0.891
0.871	0.638	0.812	0.909	0.772	0.898
0.775	0.706	0.691	0.895	0.831	0.848
0.760	0.742	0.623	0.827	0.976	0.839
0.799	0.768	0.600	0.948	0.895	0.856
0.680	0.799	0.879	0.917	0.605	0.817
0.655	0.783	0.835	0.887	0.654	0.782
0.807	0.843	0.714	0.899	0.803	0.754
0.779	0.740	0.848	0.958	0.829	0.836
0.811	0.742	0.998	0.705	0.913	0.690
0.860	0.799	0.794	0.907	0.908	0.766

Individual Egg Mass Statistics

N	100	100	100	100	100
Mean	0.767	0.788	0.766	0.837	0.834
Var. (S ²)	0.006	0.011	0.007	0.008	0.007
SEM	0.008	0.010	0.008	0.009	0.010

Combined Egg Mass Statistics

Total N	6
Site Mean	0.795
Var. (S ²)	0.001
SEM	0.013

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE	1.284	1.242	1.622	1.507	1.628	1.528
	1.444	1.617	1.544	1.512	1.392	1.499
04/18/00	1.453	1.581	1.314	1.524	1.427	1.440
	1.412	1.696	1.374	1.418	1.474	1.579
STUDY DAY	1.316	1.671	1.441	1.629	1.696	1.411
	1.278	1.596	1.472	1.652	1.412	1.355
5	1.380	1.728	1.426	1.528	1.467	1.342
	1.244	1.467	1.511	1.667	1.271	1.444
STAGE	1.167	1.470	1.407	1.413	1.714	1.526
	1.323	1.736	1.365	1.403	1.599	1.511
	1.294	1.687	1.465	1.563	1.272	1.465
	1.511	1.627	1.351	1.450	1.083	1.333
	1.348	1.268	1.416	1.495	1.482	1.486
	1.354	1.510	1.477	1.580	1.481	1.522
	1.485	1.509	1.336	1.510	1.418	1.530
	1.280	1.674	1.541	1.574	1.645	1.349
	1.296	1.546	1.456	1.748	1.529	1.409
	1.270	1.485	1.782	1.567	1.244	1.612
	1.348	1.509	1.438	1.640	1.490	1.602
	1.094	1.607	1.349	1.740	1.566	1.395
	1.365	1.618	1.586	1.704	1.458	1.448
	1.137	1.401	1.432	1.661	1.651	1.496
	1.362	1.675	1.369	1.497	1.656	1.357
	1.323	1.714	1.676	1.977	1.524	1.234
	1.296	1.649	1.637	1.815	1.606	1.374
	1.601	1.808	1.536	1.407	1.725	1.571
	1.422	1.735	1.411	1.644	1.000	1.562
	1.289	1.815	1.298	1.529	1.516	1.544
	1.602	1.617	1.188	1.613	1.439	1.602
	1.293	1.522	1.704	1.457	1.511	1.396
	1.110	1.726	1.485	1.672	1.412	1.466
	1.438	1.773	1.220	1.760	1.571	1.661
	1.396	1.909	1.512	1.549	1.324	1.543
	1.210	1.687	1.406	1.925	1.432	1.440
	1.347	1.781	1.373	1.799	1.422	1.434
	1.348	1.569	1.160	1.567	1.449	1.405
	1.366	1.571	1.239	1.834	1.478	1.319
	1.246	1.522	1.323	1.564	1.579	1.263
	1.536	1.721	1.406	1.698	1.724	1.321
	1.418	1.701	1.372	1.707	1.647	1.490
	1.621	1.645	1.380	1.723	1.641	1.300
	1.603	1.620	1.513	1.661	1.753	1.217
	1.426	1.644	1.568	1.568	1.559	1.426
	1.428	1.674	1.321	1.789	1.533	1.314
	1.410	1.544	1.281	1.680	1.441	1.261
	1.563	1.712	1.334	1.617	1.483	1.590
	1.426	1.934	1.373	1.509	1.590	1.419
	1.410	1.510	1.463	1.662	1.566	1.170
	1.416	1.693	1.401	1.563	1.464	1.374
	1.506	1.690	1.385	1.250	1.695	1.491

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
1.541	1.428	1.478	1.408	1.590	1.627
1.536	1.461	1.400	1.289	1.735	1.402
1.296	1.532	1.538	1.268	1.542	1.488
1.407	1.331	1.322	1.350	1.403	1.661
1.268	1.705	1.507	1.401	1.484	1.374
1.125	1.536	1.387	1.573	1.443	1.485
1.277	1.333	1.387	1.426	1.557	1.499
1.322	1.597	1.634	1.584	1.499	1.490
1.163	1.497	1.412	1.383	1.380	1.569
1.065	1.579	1.403	1.449	1.397	1.401
1.387	1.606	1.510	1.320	1.638	1.619
1.482	1.563	1.289	1.323	1.598	1.490
1.391	1.377	1.551	1.372	1.837	1.455
1.456	1.474	1.239	1.615	1.628	1.396
1.631	1.588	1.633	1.532	1.645	1.197
1.372	1.465	1.483	1.688	1.696	1.467
1.289	1.617	1.340	1.401	1.590	1.271
1.611	1.452	1.453	1.303	1.476	1.548
1.496	1.678	1.621	1.517	1.483	1.573
1.636	1.703	1.570	1.434	1.217	1.402
1.178	1.631	1.515	1.265	1.307	1.716
1.161	1.440	1.398	1.524	1.385	1.571
1.404	1.468	1.369	1.485	1.524	1.474
1.337	1.457	1.294	1.511	1.718	1.536
1.239	1.723	1.601	1.400	1.494	1.691
1.395	1.559	1.465	1.486	1.596	1.288
1.414	1.581	1.401	1.574	1.557	1.568
1.520	1.405	1.369	1.689	1.528	1.617
1.232	1.248	1.244	1.282	1.662	1.977
1.342	1.564	1.444	1.593	1.697	1.693
1.321	1.787	1.398	1.628	1.715	1.784
1.246	1.410	1.334	1.750	1.587	1.595
1.471	1.571	1.584	1.171	1.687	1.719
1.018	1.577	1.536	1.581	1.510	1.456
1.634	1.430	1.385	1.419	1.666	1.571
1.348	1.294	1.503	1.698	1.474	1.622
1.327	1.494	1.568	1.706	1.353	1.524
1.374	1.707	1.470	1.738	1.418	1.407
1.410	1.654	1.456	1.860	1.577	1.704
1.269	1.569	1.374	1.478	1.636	1.631
1.364	1.934	1.437	1.899	1.566	1.635
1.571	1.644	1.742	1.559	1.731	1.210
1.434	1.464	1.692	1.612	1.732	1.693
1.536	1.464	1.265	1.461	1.486	1.483
1.391	1.531	1.400	1.324	1.766	1.493
1.381	1.349	1.517	1.479	1.460	1.544
1.280	1.741	1.406	1.549	1.482	1.627
1.401	1.537	1.370	1.451	1.392	1.536
1.602	1.430	1.479	1.569	1.543	
1.470			1.514	1.511	

Individual Egg Mass Statistics

N	100	99	99	100	100	98
Mean	1.373	1.582	1.440	1.554	1.527	1.486
Var. (S ²)	0.018	0.020	0.015	0.025	0.021	0.019
SEM	0.013	0.014	0.012	0.016	0.014	0.014

Combined Egg Mass Statistics

Total N	6
Site Mean	1.494
Var. (S ²)	0.006
SEM	0.032

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.854	1.890	1.504	2.504	2.111	1.987
DATE	1.871	2.069	2.264	2.425	2.010	1.802
04/24/00	1.726	1.798	2.235	2.241	1.901	1.783
	1.718	2.071	2.239	2.424	1.828	1.962
STUDY DAY	1.470	2.092	1.935	2.444	1.828	1.990
11	1.609	1.922	1.922	2.361	1.917	1.947
	1.656	2.112	1.647	2.550	1.852	1.755
STAGE	1.634	1.963	2.025	2.239	1.899	1.846
24	1.528	2.152	2.256	2.626	1.863	1.864
	1.706	2.182	2.638	2.519	1.978	1.563
	1.615	1.785	2.041	2.914	1.875	1.753
	1.790	1.708	2.104	2.121	1.741	1.502
	1.713	1.918	2.072	2.405	2.088	1.489
	1.538	2.045	1.840	2.167	1.978	1.524
	1.641	1.973	2.206	2.308	2.221	1.613
	1.780	2.460	1.719	2.768	2.010	1.647
	2.027	2.488	2.045	2.643	2.092	1.959
	2.202	2.255	2.534	2.518	2.395	1.663
	2.086	2.318	2.045	2.802	1.880	1.458
	1.851	2.273	2.483	2.204	1.778	2.326
	1.524	2.007	2.142	3.017	2.214	1.991
	1.824	2.120	1.999	2.251	1.964	2.095
	1.993	2.062	1.869	2.464	2.525	1.897
	1.477	1.712	1.920	2.334	1.682	1.556
	1.731	1.975	2.806	2.145	1.828	2.089
	2.118	1.766	1.970	2.054	1.589	1.908
	2.018	1.917	2.124	2.117	1.630	2.113
	1.712	2.003	2.233	2.101	1.727	2.254
	1.878	1.881	2.258	2.239	2.019	1.818
	1.539	1.980	2.112	1.980	1.828	1.876
	1.797	2.058	2.522	2.162	1.983	1.914
	1.684	1.736	2.753	2.218	1.850	2.082
	1.801	1.843	2.169	2.156	1.805	1.913
	2.034	1.993	2.047	2.714	1.919	1.819
	1.777	1.893	2.117	2.055	2.041	1.621
	1.922	1.684	2.105	2.101	1.837	1.645
	1.824	2.045	1.962	2.363	2.197	2.019
	1.647	2.361	2.204	2.054	1.751	1.956
	1.955	1.607	2.102	2.170	2.003	1.242
	2.192	2.215	2.236	2.264	2.323	2.711
	2.694	1.929	1.942	2.119	2.107	2.362
	2.192	2.360	2.185	2.146	2.107	2.358
	1.856	2.226	2.421	2.674	2.000	2.333
	2.089	2.132	2.007	2.417	2.163	2.147
	2.339	2.197	2.291	2.043	1.841	2.349
	1.857	2.271	2.446	2.554	1.988	1.761
	1.709	1.704	2.371	2.233	1.811	2.432
	1.580	1.662	2.431	2.127	2.022	2.076
	2.124	2.318	2.138	1.987	2.505	1.927
	1.704	2.193	2.038	1.947	2.077	2.183

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
1.741	1.909	2.149	1.846	2.417	2.072
1.442	1.880	2.356	2.158	1.869	2.006
1.823	2.310	2.235	1.993	2.220	2.147
2.012	2.083	2.045	2.385	2.236	1.890
1.677	1.862	2.181	2.363	2.129	2.003
1.649	1.881	2.300	2.295	2.113	1.867
1.727	1.885	2.316	1.998	2.012	1.777
1.612	2.324	2.290	1.989	2.027	1.869
1.572	2.389	2.238	2.628	2.110	2.029
1.788	2.041	2.432	2.197	1.927	1.809
1.835	2.410	2.307	2.112	2.199	1.799
1.823	2.141	2.425	2.035	2.021	1.842
1.869	1.947	2.505	2.337	2.352	1.831
1.828	2.340	2.510	2.497	2.677	1.860
1.854	2.289	2.190	2.346	2.360	2.141
1.766	2.153	2.028	2.148	2.206	1.896
1.888	2.144	2.403	2.600	2.194	1.945
1.770	2.127	2.506	2.046	2.309	1.756
1.961	2.248	2.841	2.164	2.133	2.033
1.863	2.027	2.253	2.229	2.089	1.966
1.718	2.157	1.851	2.029	2.100	2.067
2.154	2.180	2.390	2.219	2.176	1.989
1.988	2.067	1.805	1.924	2.317	2.384
2.104	1.962	2.327	1.884	1.973	1.955
1.944	2.079	2.159	2.287	1.909	2.075
2.055	2.267	2.204	2.391	1.687	1.807
2.098	1.997	2.308	2.209	2.195	2.063
1.864	1.961	2.347	1.809	2.322	1.817
2.485	1.842	2.064	2.101	1.847	2.279
1.769	1.939	2.178	2.091	1.946	2.171
1.470	2.517	2.064	2.274	2.133	2.306
1.936	2.540	2.029	2.200	1.891	2.349
1.867	2.372	2.185	2.011	1.877	2.337
1.799	2.204	2.414	2.166	2.124	2.087
1.882	2.538	2.411	2.212	1.915	1.864
1.750	2.057	2.400	2.662	1.937	2.096
1.560	1.721	2.326	2.592	2.150	2.322
1.958	1.886	2.063	2.270	1.934	2.161
1.941	2.477	1.897	2.518	1.805	1.962
1.921	2.318	2.343	2.068	1.834	1.932
1.947	2.250	2.094	2.613	1.984	1.965
1.619	2.164	1.922	2.534	1.996	1.829
1.931	2.123	1.862	2.197	2.231	2.402
1.813	2.127	2.268	2.388	2.028	1.804
2.010	2.449	2.508	2.087	1.934	2.028
2.257	2.234	2.068	2.055	1.932	2.074
1.676	2.000	2.133	2.551	2.112	2.014
2.195	1.983		2.016	1.939	
1.784	2.125		2.286	1.966	
2.175				2.032	

Individual Egg Mass Statistics

N	100	99	97	99	100	97
Mean	1.848	2.083	2.194	2.277	2.024	1.964
Var. (S ²)	0.050	0.047	0.056	0.059	0.040	0.061
SEM	0.022	0.022	0.024	0.024	0.020	0.025

Combined Egg Mass Statistics

Total N	6
Site Mean	2.065
Var. (S ²)	0.024
SEM	0.063

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.273	3.010	3.533	3.175	3.005	2.915
DATE	3.098	2.670	2.955	2.140	3.113	2.947
05/30/00	2.508	2.548	2.904	2.845	2.652	2.554
	2.494	2.877	3.058	2.455	3.414	3.348
STUDY DAY	2.346	2.774	3.664	2.986	2.735	3.516
47	2.640	3.042	3.233	3.107	3.687	2.192
	2.443	2.966	3.485	2.591	2.814	2.732
STAGE	2.986	2.786	2.483	2.529	2.910	2.490
30	3.078	2.937	3.779	3.365	3.118	3.292
	2.563	2.450	3.351	2.955	2.427	2.730
	2.746	2.278	2.998	3.063	2.748	2.160
	2.779	3.028	2.946	3.064	3.513	2.269
	2.828	2.807	3.258	2.669	3.289	2.313
	3.063	2.506	3.043	2.722	2.359	2.776
	2.716	2.570	3.618	2.979	2.655	2.634
	2.347	2.652	3.513	2.444	2.955	3.448
	2.335	2.793	2.560	2.936	2.588	3.333
	2.406	2.612	3.165	2.487	2.577	3.071
	2.830	2.957	2.863	2.421	3.517	2.671
	2.632	2.759	3.013	3.016	2.345	2.795
	2.146	2.543	3.279	2.934	2.205	3.407
	2.499	2.683	2.889	3.469	2.874	3.386
	2.958	3.173	3.352	2.549	2.761	3.450
	2.693	2.855	2.570	2.921	3.074	2.371
	2.406	3.028	3.184	2.302	3.003	2.632
	2.933	2.644	3.958	2.347	3.387	3.011
	2.614	3.546	3.229	2.709	2.858	3.098
	2.709	2.966	2.659	2.725	2.446	2.988
	3.057	3.044	2.812	2.637	2.890	2.994
	3.195	2.939	2.484	2.687	2.378	2.897
	2.410	2.375	3.627	2.858	3.501	2.577
	2.857	3.013	3.058	3.038	2.560	2.875
	2.735	1.981	2.798	3.302	2.601	3.580
	2.978	2.966	3.247	2.289	3.443	2.653
	2.192	3.146	2.361	2.844	2.933	2.141
	2.892	3.102	2.804	2.884	2.216	2.499
	2.699	2.483	3.450	2.632	2.984	3.657
	3.016	2.845	3.028	2.210	2.238	2.534
	2.594	3.071	2.783	3.146	2.976	2.804
	2.825	2.762	2.561	2.267	2.738	2.357
	2.441	2.755	3.001	2.341	2.580	2.344
	2.931	3.034	3.396	2.835	2.738	2.186
	3.489	2.592	2.332	2.955	3.271	3.000
	2.708	2.955	2.695	2.051	1.909	3.386
	2.477	2.576	3.108	2.536	2.175	3.151
	2.728	3.112	2.067	3.112	2.575	2.562
	2.070	2.117	2.208	2.731	2.476	2.824
	3.047	3.070	2.654	3.501	3.124	3.177
	2.107	3.086	3.039	2.781	2.347	2.235
	2.835	2.854	3.186	2.410	2.559	2.686

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
3.053	3.362	2.668	3.141	2.574	2.921
2.659	2.932	2.885	2.753	2.735	3.735
2.897	2.971	2.820	1.976	3.007	2.517
3.116	3.053	2.605	2.704	2.753	2.831
2.746	3.483	2.248	3.262	2.410	2.746
2.541	2.655	2.658	2.486	2.484	2.804
2.557	2.106	3.214	2.311	2.863	2.661
2.727	1.822	3.177	2.483	2.619	2.749
2.838	2.345	3.312	2.708	2.342	2.844
2.132	3.684	3.381	3.336	2.500	2.804
3.248	2.440	2.731	2.846	2.606	2.667
2.495	3.038	2.529	2.623	2.391	3.085
3.153	2.552	3.086	2.934	2.450	2.439
2.619	2.693	3.425	2.536	2.600	2.700
2.643	2.728	2.650	2.854	2.687	2.504
2.838	3.351	2.735	3.173	3.471	2.079
2.609	2.313	2.308	2.970	3.121	2.024
2.933	2.282	3.076	3.195	2.785	2.523
2.982	2.317	2.510	2.222	2.901	2.243
2.472	3.253	3.271	3.069		2.519
2.549	2.526	2.529	2.779		2.781
2.182	2.767	3.112	2.705		2.584
2.483	2.996	3.070	2.611		2.520
2.485	2.825	2.498	2.962		2.487
3.039	2.345	3.089	2.152		2.311
2.594	2.728	2.777	3.184		3.263
2.835	2.825	2.383	2.767		2.514
2.671	2.994	3.136	2.133		3.294
2.745	2.981		2.623		2.199
3.192	2.449		2.323		1.867
2.382	2.170		3.621		3.137
2.553	2.735		2.658		
2.000	2.563		3.558		
2.393	2.314		2.664		
2.700	3.180		2.491		
2.580	2.160		3.254		
1.576	3.105		2.563		
2.410	2.160		2.989		
2.902	2.847		2.966		
2.489			2.536		
2.062			2.529		
			3.176		
			3.319		
			2.653		
			2.636		

Individual Egg Mass Statistics

N	91	89	78	95	69	81
Mean	2.675	2.768	2.963	2.773	2.776	2.765
Var. (S ²)	0.106	0.126	0.158	0.129	0.145	0.174
SEM	0.034	0.038	0.045	0.037	0.046	0.046

Combined Egg Mass Statistics

Total N	6
Site Mean	2.787
Var. (S ²)	0.009
SEM	0.039

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.951	2.930	3.264	3.770	2.508	2.826
DATE	3.030	3.461	3.076	3.705	3.287	3.648
06/26/00	2.290	2.419	2.830	3.412	2.936	3.810
	3.776	2.672	3.693	3.868	2.242	3.764
STUDY DAY	2.932	3.606	3.537	4.055	2.262	3.558
74	1.643	4.111	4.190	2.854	2.576	2.987
	4.013	3.439	3.464	3.214	2.945	2.972
STAGE	2.694	2.786	2.984	3.302	1.423	2.700
34	3.291	2.181	2.671	3.400	3.145	2.857
	3.030	2.798	3.681	1.811	2.836	3.535
	2.605	2.860	3.357	2.610	3.036	3.179
	3.536	2.533	3.162	2.960	3.258	4.050
	3.128	3.006	3.275	2.757	3.101	3.343
	3.316	2.763	3.420	3.077	2.668	3.051
	2.769	2.475	2.716	3.866	3.609	1.757
	2.796	3.164	3.355	3.163	2.919	3.128
	2.001	3.565	2.818	3.292	2.729	3.693
	3.494	2.682	3.264	2.702	2.859	4.153
	2.393	1.768	3.258	3.930	4.741	2.758
	2.497	2.537	3.427	3.259	3.223	3.286
	2.927	3.018	2.659	2.936	3.184	2.096
	3.366	2.903	3.964	3.818	3.438	3.120
	2.711	2.968	4.016	3.200	3.532	3.557
	3.244	2.634	2.497	3.083	2.907	3.280
	3.717	2.383	3.456	2.812	3.510	3.039
	2.813	3.882	2.071	3.301	2.273	3.566
	2.757	3.191	3.721	2.747	3.120	3.363
	3.918	3.646	3.201	2.729	3.743	2.487
	2.526	2.844	3.728	2.193	3.631	3.051
	2.811	2.685	2.600	2.667	2.375	2.973
	3.578	2.421	2.080	3.358	3.612	3.082
	3.580	2.096	3.325	3.133	3.916	2.798
	3.308	2.893	3.526	2.893	2.907	2.628
	2.250	3.815	2.286	3.008	4.218	2.732
	2.613	2.589	3.252	2.501	2.576	3.405
	3.085	3.230	3.362	2.608	3.693	2.973
	3.106	2.926	3.819	2.832	3.603	2.929
	2.512	2.988	2.946	2.886	2.684	3.309
	2.465	2.225	2.542	2.974	4.371	3.783
	2.621	2.956	3.644	4.105	3.396	3.336
	2.982	2.998	2.929	1.768	3.085	4.214
	3.251	2.932	2.893	2.872	3.132	3.659
	2.905	2.934	3.470	3.184	2.768	3.515
	3.459	3.088	3.706	3.575	3.486	2.894
	2.731	3.324	3.099	2.556	3.856	3.174
	2.951	3.655	2.490	3.163	3.189	3.774
	2.904	2.694	3.018	2.822	3.320	3.400
	3.685	3.674	2.521	3.387	2.798	3.203
	3.651	2.707	2.566	2.965	2.140	2.972
	3.839	2.141	2.574	2.509	3.014	3.755

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.140	2.813	2.716	2.848	3.096	3.298
2.697	2.724	3.006	2.096	2.640	2.477
3.222	2.715	3.479	2.616	2.971	3.754
2.904	3.430	2.939	2.327	2.340	2.591
2.409	3.260	3.214	3.645	2.518	3.308
2.620	2.756	4.033	1.586	2.914	2.995
2.806	2.760	3.546	3.946	2.354	2.380
2.634	3.294	3.587	4.123	2.708	3.692
2.973	3.283	3.534	3.412	3.018	3.360
2.680	3.467	2.942	1.569	2.824	3.680
2.754	3.156	3.396	3.467	3.061	3.663
2.607	2.595	2.587	3.440	2.822	3.807
3.580	3.432	3.244	3.258	2.935	2.677
2.659	3.559	3.398	3.629		2.201
2.451	2.616	3.549	3.158		3.159
2.680	3.115	3.370	3.370		2.495
2.924	2.778	3.438	2.729		4.385
3.103	2.973	1.990	3.085		3.120
2.704	2.293	2.782	3.806		3.345
2.804	2.419	2.433	3.695		3.322
2.859	3.079	2.610	4.224		2.796
1.750	2.286	3.562	3.693		
2.643	2.585	2.622	3.216		
3.019	2.919	1.893	3.767		
2.910	3.621	1.720	4.251		
2.779	3.287		3.677		
3.088	2.056		2.914		
3.359	3.687		3.110		
3.156	2.438		4.254		
3.061	2.335		3.109		
2.809	2.911		2.746		
2.576	2.621		3.336		
2.495	3.671		3.469		
3.036	2.584		3.457		
2.108			3.788		
2.915					
2.732					
3.991					

Individual Egg Mass Statistics

N	88	84	75	85	63	71
Mean	2.921	2.925	3.107	3.158	3.047	3.206
Var. (S ²)	0.223	0.225	0.285	0.344	0.317	0.255
SEM	0.050	0.052	0.062	0.064	0.071	0.060

Combined Egg Mass Statistics

Total N	6
Site Mean	3.061
Var. (S ²)	0.014
SEM	0.049

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.292	3.717	4.398	3.430	3.340	3.061
DATE	4.091	3.788	2.509	3.147	3.719	4.032
07/27/00	3.381	3.628	2.383	3.863	2.843	3.195
	3.500	3.137	4.888	1.625	3.044	3.587
STUDY DAY	4.068	4.186	3.266	3.699	3.337	3.366
105	2.805	3.535	3.804	4.072	2.764	3.706
	3.863	3.576	2.992	4.490	1.759	1.885
STAGE	4.147	3.036	3.440	3.194	2.891	3.077
38	3.101	4.460	4.680	3.217	4.147	1.874
	2.703	3.061	3.608	3.572	3.414	3.509
	3.575	3.962	4.107	3.096	2.832	4.636
	2.789	3.502	4.312	2.715	3.897	2.402
	3.309	3.737	2.456	3.796	4.348	3.453
	3.469	4.181	3.934	4.113	3.646	3.920
	3.593	3.537	2.064	3.327	3.359	3.716
	3.208	3.311	3.859	3.550	2.876	4.207
	3.596	2.700	3.712	4.541	3.082	3.280
	3.649	3.301	4.117	4.013	3.488	2.893
	4.043	2.861	3.890	2.992	2.756	4.106
	3.214	2.824	4.451	2.490	3.953	3.745
	3.892	3.774	4.664	3.699	2.697	3.236
	2.723	4.014	2.252	4.205	4.147	3.409
	3.914	3.869	4.146	3.721	5.280	3.405
	3.530	3.089	4.156	3.257	2.946	3.389
	3.528	4.123	4.041	3.742	3.623	3.643
	4.019	2.791	4.072	3.635	2.787	3.897
	3.221	3.829	3.597	3.349	2.984	3.611
	3.150	3.263	3.495	3.994	2.410	4.850
	2.634	4.015	3.674	1.889	3.358	3.429
	2.963	3.241	3.692	1.751	3.944	4.792
	3.436	3.754	3.295	3.607	2.769	3.723
	4.072	4.107	5.000	4.245	3.103	3.467
	3.674	3.969	2.972	3.662	2.894	3.787
	3.791	3.626	4.225	3.945	3.115	3.743
	2.971	2.712	3.958	3.660	3.091	3.110
	3.311	2.575	2.588	4.083	3.610	4.087
	2.859	3.603	2.542	3.908	3.944	3.990
	4.165	4.024	2.929		3.903	1.932
	3.131	2.503	2.608		3.036	4.025
	3.328	3.910	4.739		2.782	5.100
	3.530	3.473	3.128		2.652	3.223
	3.720	3.301	3.526		2.995	
	3.765	2.540	4.118		3.037	
	3.394	4.364	3.937		2.713	
	3.559	3.230	2.464		3.724	
	4.627	4.062	4.136			
	4.000	3.576	3.338			
	3.110	3.528	4.298			
	4.027	3.488	3.965			
	4.142	3.266	3.674			
		3.234				
		3.248				
		2.863				
		2.150				
		4.024				
		3.430				
		3.133				
		3.182				
		3.993				
		3.508				
		3.244				
		2.669				

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
Individual Egg Mass Statistics						
N	50	62	50	37	45	41
Mean	3.512	3.457	3.642	3.494	3.267	3.549
Var. (S ²)	0.210	0.261	0.551	0.477	0.374	0.503
SEM	0.065	0.065	0.105	0.114	0.091	0.111
Combined Egg Mass Statistics						
Total N	6					
Site Mean	3.487					
Var. (S ²)	0.016					
SEM	0.051					

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.253	3.715	4.211	5.035	3.823	2.294
DATE	4.321	4.474	4.606		3.506	4.075
08/28/00	4.958	3.601	4.032		4.872	2.936
	4.343	3.516	3.849		4.010	4.214
STUDY DAY	4.363	2.428	4.349		4.114	3.076
137	3.583	3.296	3.978			4.397
	3.826	3.341	4.409			3.297
STAGE	3.090	3.647	4.274			
42	4.206	3.499	4.290			
	4.032	3.189	3.674			
	4.141	4.160				
	3.290	3.765				
	3.782	3.451				
	2.750	2.783				
	3.112					
	2.183					
	3.872					
	3.695					
	3.600					
	4.087					
	2.691					

Individual Egg Mass Statistics

N	21	14	10	1	5	7
Mean	3.675	3.491	4.167	5.035	4.065	3.470
Var. (S ²)	0.445	0.259	0.079	na	0.257	0.605
SEM	0.146	0.136	0.089	na	0.227	0.294

Combined Egg Mass Statistics

Total N	6
Site Mean	3.984
Var. (S ²)	0.350
SEM	0.241

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 41 (WML-1) (0.007 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE		3.475	4.589			
09/07/00		3.970	4.243			
		3.622				
		3.207				
STUDY DAY		3.782				
147		3.963				
		3.333				
STAGE		3.135				
41		3.111				
		3.611				
		3.227				

Individual Egg Mass Statistics

N	0	11	2	0	0	0
Mean	na	3.494	4.416	na	na	na
Var. (S ²)	na	0.102	0.060	na	na	na
SEM	na	0.096	0.173	na	na	na

Combined Egg Mass Statistics

Total N	2
Site Mean	3.955
Var. (S ²)	0.425
SEM	0.461

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.657	2.351	2.056	2.268	2.332	2.017
DATE	1.711	1.947	1.773	2.409	2.377	2.158
04/24/00	1.730	2.395	2.194	2.679	2.264	2.281
	1.631	2.245	1.701	2.390	2.102	2.157
STUDY DAY	2.063	2.446	2.146	2.440	2.068	2.035
11	1.441	1.788	1.876	2.250	1.730	1.814
	1.613	2.196	1.971	2.201	1.896	1.994
STAGE	1.753	1.901	1.881	2.213	1.913	2.153
24	1.628	2.096	2.293	2.224	2.272	1.916
	1.552	2.001	2.078	2.271	2.550	1.834
	1.552	2.212	1.238	2.074	2.210	2.125
	1.841	2.147	1.753	2.421	2.323	2.175
	1.591	1.664	1.847	2.377	2.484	2.033
	1.625	1.909	1.916	2.253	2.237	1.695
	1.822	2.233	1.951	2.486	2.118	2.206
	1.750	1.822	2.443	2.354	2.337	1.800
	1.609	2.286	1.974	2.586	2.202	1.761
	1.799	2.048	2.385	2.315	2.504	2.020
	1.789	2.182	1.916	2.335	2.232	2.029
	1.661	2.289	1.951	1.845	2.115	1.747
	1.742	2.326	1.875	2.448	2.485	2.139
	1.997	2.418	1.845	2.335	1.913	1.945
	1.406	2.443	1.976	2.167	2.153	1.747
	1.536	2.097	2.075	1.988	2.228	2.175
	1.751	2.019	2.153	1.942	2.100	2.065
	1.814	2.156	2.390	2.224	2.562	2.071
	1.858	2.351	2.167	2.122	2.593	1.751
	1.958	1.944	2.086	2.115	2.033	1.875
	1.822	1.941	2.080	1.795	2.293	2.013
	1.844	2.228	2.246	2.108	2.348	2.056
	1.782	2.254	2.585	2.125	2.310	2.082
	1.923	2.162	2.240	2.312	2.402	1.881
	1.943	2.006	1.769	2.250	1.692	2.669
	2.275	2.461	2.582	2.250	1.795	2.047
	1.858	2.441	2.237	2.041	2.144	2.056
	1.801	2.478	1.945	2.461	2.215	1.982
	1.645	1.943	2.426	2.419	2.139	2.283
	1.667	2.148	2.625	2.329	2.447	1.651
	1.946	2.243	2.001	2.222	2.401	1.375
	2.041	1.968	2.441	2.158	2.196	2.257
	1.846	1.971	2.488	2.224	2.553	2.095
	2.056	1.888	2.252	2.280	2.569	2.125
	1.579	1.976	2.569	1.848	1.939	1.742
	1.485	1.834	2.648	1.877	2.001	1.859
	1.692	2.275	2.068	2.096	2.455	1.768
	1.719	1.702	2.167	2.471	2.213	1.657
	1.939	1.945	2.305	2.268	2.048	2.395
	1.929	1.850	2.392	2.126	2.158	2.253
	1.967	1.672	2.323	2.625	1.838	2.107
	2.117	2.016	2.153	2.259	2.190	2.423

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
2.135	1.943	2.148	1.953	2.140	2.221
1.844	1.797	2.357	2.630	2.377	2.188
2.035	1.645	1.944	2.235	2.408	1.640
2.326	1.842	2.041	2.144	2.541	1.956
2.000	1.812	2.095	2.183	2.191	1.679
1.907	2.289	2.125	2.519	2.155	2.171
1.834	2.128	1.962	2.198	2.488	1.870
1.976	1.881	1.847	1.925	2.422	1.570
1.818	2.016	1.845	2.267	2.116	2.144
1.962	2.094	2.217	1.577	2.305	1.554
1.822	2.160	2.224	2.520	2.329	2.142
2.283	1.865	2.206	1.953	2.193	2.194
1.790	2.028	1.986	1.880	2.157	2.187
1.820	2.168	1.963	1.905	2.431	1.850
2.111	2.095	2.227	2.146	2.233	1.482
2.028	2.138	2.404	2.164	2.272	2.195
2.171	2.372	1.845	2.298	2.411	1.912
2.108	2.310	2.006	1.903	2.440	1.597
2.327	2.047	2.100	2.481	2.227	1.766
2.213	2.167	2.107	2.470	1.875	1.688
1.827	2.153	2.357	2.085	2.357	2.253
2.028	2.078	1.987	2.224	2.656	1.695
2.122	2.155	2.285	2.554	2.158	2.037
1.896	2.275	1.873	2.196	2.323	1.865
1.902	0.993	2.163	2.357	2.392	1.818
1.878	1.569	2.125	1.730	2.198	1.902
2.035	1.900	2.018	1.888	2.362	2.012
1.601	1.919	2.016	2.182	1.985	1.978
1.618	1.628	2.086	1.870	2.139	1.997
1.881	1.700	1.970	1.516	1.902	1.869
1.710	1.770	1.838	2.254	2.230	1.797
1.896	1.700	1.625	2.323	2.054	1.544
1.742	1.968	1.875	2.418	2.431	1.947
1.910	2.074	1.733	2.419	1.928	2.075
1.945	2.163	2.462	2.364	2.416	2.070
1.730	2.327	1.982	2.079	1.898	1.831
1.803	1.942	2.201	2.055	2.102	1.342
1.973	1.978	2.206	2.237	2.364	1.318
2.026	2.082	2.200	2.006	1.958	
2.085	1.906	2.250	2.048	2.276	
2.092	2.115	1.729	2.531	2.071	
1.981	1.975	2.109	2.031	2.502	
2.010	2.056	2.188	2.253	2.332	
2.188	1.950	1.913	1.503	2.334	
1.726	1.838	2.206	2.364	2.342	
2.090	2.048	2.082	2.231	2.377	
2.016	1.772				
1.875	2.119				
2.107	2.017				

Individual Egg Mass Statistics

N	99	99	96	96	96	88
Mean	1.868	2.043	2.100	2.202	2.234	1.953
Var. (S ²)	0.040	0.056	0.058	0.056	0.043	0.061
SEM	0.020	0.024	0.025	0.024	0.021	0.026

Combined Egg Mass Statistics

Total N	6
Site Mean	2.067
Var. (S ²)	0.020
SEM	0.058

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.875	2.999	2.735	4.481	3.408	2.245
DATE	3.734	2.850	3.074	5.289	4.102	3.247
05/30/00	3.088	3.296	2.933	4.418	2.937	3.131
	2.574	2.478	2.083	4.169	2.913	3.505
STUDY DAY	2.698	2.472	2.789	4.299	3.326	2.543
47	2.835	3.127	2.544	2.580	2.268	2.554
	3.935	2.691	2.705	2.683	3.050	5.280
STAGE	2.755	2.268	3.371	2.921	3.050	3.319
34	3.568	3.341	2.574	3.147	2.377	2.844
	2.673	2.613	2.350	3.517	2.986	3.202
	3.438	3.312	3.146	2.444	2.966	3.401
	2.637	2.464	2.804	2.484	2.323	2.994
	2.785	3.841	2.854	2.561	3.754	2.152
	3.011	2.962	2.771	2.600	2.986	2.220
	3.146	3.657	3.640	2.973	2.677	2.976
	2.875	2.955	2.829	2.735	3.107	2.586
	2.951	3.379	3.158	2.794	3.069	2.650
	2.468	2.383	3.269	2.759	3.164	2.785
	3.305	2.981	2.915	2.870	2.637	2.305
	2.166	3.116	2.971	2.637	3.305	1.912
	2.314	3.123	2.877	2.733	3.179	3.170
	2.661	2.655	3.116	3.082	3.502	3.229
	2.140	3.389	2.596	3.386	3.497	3.940
	1.996	3.663	2.019	2.269	3.576	1.452
	2.523	3.754	2.869	3.175	3.801	3.690
	2.347	3.553	2.978	3.016	3.580	2.469
	2.683	4.094	3.572	2.882	3.552	1.867
	2.870	3.949	2.814	3.195	2.809	2.137
	2.386	3.157	2.491	2.822	3.351	2.898
	3.103	3.261	2.510	2.928	3.586	2.767
	3.140	3.396	2.642	3.199	3.841	1.976
	3.093	2.887	3.655	2.858	3.317	2.449
	2.669	2.259	2.209	3.206	3.261	2.855
	2.372	2.305	3.000	2.345	2.536	2.323
	3.093	1.975	2.576	3.692	3.368	3.104
	2.890	2.344	2.577	2.746	3.326	2.985
	2.408	3.014	2.561	2.930	2.756	3.505
	4.008	2.946	3.391	3.055	2.910	3.396
	3.511	2.667	2.758	3.256	2.793	3.875
	3.597	1.789	2.907	2.840	3.179	3.463
	3.380	2.049	3.058	2.828	3.588	3.542
	3.146	2.327	3.105	3.085	2.504	2.790
	3.148	2.314	2.644	2.083	3.312	2.621
	2.858	2.707	3.019	3.299	3.366	3.389
	2.727	2.777	2.384	3.422	2.731	2.523
		2.449	2.877	2.868	3.345	1.434
		2.420	2.084	3.483	2.759	3.389
		2.759	2.683	3.541		2.735
		2.731	2.785	2.607		2.450
		2.425	3.549	3.513		2.382

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.669	2.936	3.292		2.726
	3.324	2.644	3.209		3.005
	2.392	2.220	2.644		3.214
	2.438	2.828	3.138		2.693
	2.855	2.756	3.043		3.211
	2.271	3.000	3.210		3.023
	2.491	3.036	3.442		2.217
	3.248	2.555	3.348		3.414
	2.835	3.424	3.097		2.259
	2.690	3.239	2.469		3.183
	2.329	3.302	2.237		3.439
	2.618	2.669	2.854		3.621
	2.634	3.277	2.637		2.961
	2.612	2.749	3.172		3.165
	1.993	3.055	2.772		2.530
	2.530	2.850	3.655		
	2.152	2.105	3.318		
	2.350	2.863	2.672		
	3.454	2.820	2.529		
	2.953	2.738	3.307		
	2.653	2.813	4.010		
	2.483	3.099	1 larvae missing from count		
	2.591	3.173			
	2.875	3.136			
	2.514	3.234			
	3.024	3.389			
	2.814	2.781			
	2.476	3.131			
	2.641	3.078			
		2.454			
		2.520			
		2.921			
		2.690			
		3.080			
		2.294			

Individual Egg Mass Statistics

N	45	79	85	71	47	65
Mean	2.902	2.800	2.855	3.081	3.143	2.882
Var. (S ²)	0.218	0.234	0.128	0.310	0.175	0.397
SEM	0.070	0.054	0.039	0.066	0.061	0.078

Combined Egg Mass Statistics

Total N	6
Site Mean	2.944
Var. (S ²)	0.019
SEM	0.056

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	3.529	3.027	3.032	2.510	4.278	3.610
DATE	3.440	2.352	2.374	3.084	3.576	2.982
06/26/00	3.628	2.483	2.905	3.186	3.886	2.902
	3.298	4.101	2.765	3.335	3.393	4.091
STUDY DAY	3.058	2.933	3.107	2.500	2.875	2.937
74	2.861	3.323	1.934	2.953	4.354	3.053
	3.051	3.562	3.150	2.408	3.934	2.522
STAGE	3.577	3.679	3.283	2.894	4.381	3.274
40	2.566	2.492	2.731	3.108	2.383	3.383
	3.243	3.696	3.166	3.384	3.124	3.341
	2.870	3.471	3.562	3.649	3.890	3.719
	2.193	3.572	2.929	2.879	3.614	4.091
	2.817	3.565	2.357	2.835	2.324	3.381
	2.316	4.247	2.806	3.560	2.672	3.386
	1.944	3.477	3.388	2.616	2.975	2.907
	2.575	3.685	3.219	4.023	3.278	3.784
	3.626	3.654	3.253	3.190	3.532	3.012
	2.639	3.457	2.830	2.788	2.936	2.985
	2.478	2.637	2.926	2.879	3.545	3.250
	3.067	2.722	2.637	3.545	3.418	3.354
	2.667	4.129	2.893	3.476	3.572	3.180
		2.931	2.795	3.451	3.816	3.398
		2.813	2.963	3.479	3.215	3.095
		2.807	3.699	2.805	3.072	2.780
		3.532	2.980	3.370	2.620	2.556
		2.715	3.877	2.715		3.316
		2.487	2.557	3.442		3.969
		2.901	2.151	2.868		2.758
		2.364	2.739	2.863		3.172
		2.644	2.587	2.719		4.221
		3.728	3.119	3.482		3.311
		3.112	3.210	2.873		3.602
		3.857	2.082	2.844		3.070
		2.435	3.179	3.788		3.674
		3.638	3.001	3.537		3.553
		2.542	2.702	3.715		3.214
		2.572	3.621	3.179		3.203
		3.727	2.879	3.047		3.693
		2.748	2.787	2.795		2.765
		2.859	3.085	3.474		2.689
		2.637	2.181	3.466		2.616
		4.013	3.640	2.477		3.536
		3.208	2.817	3.643		2.688
		2.628	3.063	2.551		2.338
		3.301	2.915	3.900		3.773
		2.907	3.382	2.388		
		3.874	3.286	3.128		
		3.061	3.532	3.202		
		3.796	3.530	3.466		
		2.303	2.566	2.352		

HOUSATONIC RIVER PROJECT
 VERNAL POOL CROSSOVER STUDY 2000
 PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
 SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	1.863	3.649	3.984		
	3.931	3.800	3.628		
	2.625	3.227	3.493		
	2.273	3.919	3.057		
	2.317	3.687	3.863		
	3.116	3.378	3.068		
	2.894	3.649	3.073		
	4.022	3.829			
	3.355	3.334			
	2.966	3.696			
	3.109	2.829			
	2.646	3.526			
	3.116	3.210			
	2.876	3.872			
	3.483	2.993			
		3.407			
		3.510			
		2.365			
		2.957			
		2.715			
		3.387			
		3.810			
		3.179			
		3.271			
		2.259			
		3.707			
		4.497			
		3.660			
		2.601			
		3.038			
		2.542			

Individual Egg Mass Statistics

N	21	65	81	57	25	45
Mean	2.926	3.123	3.107	3.158	3.387	3.247
Var. (S ²)	0.241	0.317	0.243	0.191	0.331	0.200
SEM	0.107	0.070	0.055	0.058	0.115	0.067

Combined Egg Mass Statistics

Total N	6
Site Mean	3.158
Var. (S ²)	0.024
SEM	0.063

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
	2.657	2.733	3.789	2.486	3.986	3.055
DATE	3.309	3.771	3.798	2.704	4.621	3.119
07/27/00	2.833	3.057	4.037	2.712		3.847
	2.217	3.511	2.489	1.434		3.941
STUDY DAY	2.650	3.931	4.170	2.553		3.348
105	3.237	3.815	3.917	3.572		3.854
	2.810	2.529	4.113	3.396		3.254
STAGE	3.424	3.341	2.936	3.402		3.754
42	2.785	2.890	3.651	3.157		3.285
	2.554	3.083		3.197		2.677
	2.946	3.386		2.698		2.961
	3.390	3.428		2.777		3.379
	3.419	3.405		3.326		3.271
	2.621	4.106		3.911		2.970
	2.395	3.817		2.956		3.454
		3.989		3.345		3.947
		3.747		4.084		3.275
		3.565		2.798		3.515
		3.728		1.830		
		3.112		3.534		
		4.511		4.060		
		3.695		3.115		
		3.588		3.887		
		3.632		3.706		
		3.379		3.389		
		Tub D				
		(12 larvae)				
		missing from				
		count				

Individual Egg Mass Statistics

N	15	25	9	25	2	18
Mean	2.883	3.510	3.656	3.121	4.304	3.384
Var. (S ²)	0.152	0.198	0.326	0.419	0.202	0.135
SEM	0.101	0.089	0.190	0.130	0.317	0.087

Combined Egg Mass Statistics

Total N	6
Site Mean	3.476
Var. (S ²)	0.241
SEM	0.200

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 42 (WML-2) (0.013 mg/Kg Sediment PCB Concentration)

	0-EM01	0-EM02	0-EM03	0-EM04	0-EM05	1-EM05
DATE		3.501	3.217			4.722
08/28/00		3.397				3.727
		4.594				3.875
STUDY DAY		2.800				4.533
137		3.285				4.016
		2.486				3.405
STAGE						3.293
44						3.880
						3.326
						3.478
						6.741

Individual Egg Mass Statistics

N	0	6	1	0	0	11
Mean	na	3.344	3.217	na	na	4.091
Var. (S ²)	na	0.525	na	na	na	0.991
SEM	na	0.296	na	na	na	0.300

Combined Egg Mass Statistics

Total N	3
Site Mean	3.550
Var. (S ²)	0.223
SEM	0.273

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY**

38-VP-2 LARVAE IN WML-2 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
11	3	0.283	0.000	0.011	6.742
12	10	0.314	0.006	0.025	24.996
13	3	0.234	0.003	0.034	25.088
14	2	0.257	0.004	0.047	25.638
15	8	0.326	0.008	0.032	27.486
16	8	0.327	0.033	0.064	55.602
17	6	0.192	0.003	0.021	27.205
18	6	0.268	0.004	0.026	24.035
19	10	0.363	0.014	0.038	32.759
20	15	0.292	0.010	0.026	34.713
Average for Treatment	7.1	0.286	0.003	0.016	17.623

38-VP-1 LARVAE IN WML-1 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
1	11	0.281	0.006	0.023	26.811
2	9	0.223	0.002	0.016	22.088
3	6	0.306	0.005	0.030	24.057
4	8	0.274	0.015	0.043	44.801
5	5	0.232	0.005	0.031	30.132
6	6	0.346	0.049	0.090	63.739
7	9	0.237	0.001	0.011	13.565
8	6	0.284	0.004	0.027	23.553
9	9	0.255	0.004	0.020	23.998
10	5	0.214	0.003	0.026	26.815
Average for Treatment	7.4	0.265	0.002	0.013	15.586

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY**

WML-1 LARVAE IN 38-VP-1 WATER/SEDIMENT (N=7)

Replicate Tub Number	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
21	2	0.238	0.018	0.095	56.271
22	na	na	na	na	na
23	4	0.217	0.010	0.051	47.016
24	13	0.177	0.000	0.004	7.990
25	16	0.360	0.010	0.026	28.376
26	13	0.417	0.047	0.060	52.282
27	7	0.400	0.017	0.049	32.620
28	1	0.117	na	na	na
Average for Treatment	8.0	0.275	0.014	0.044	42.601

WML-2 LARVAE IN 38-VP-2 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Mean Weight (g)	Var (S²)	SEM	CV (%)
31	5	0.298	0.012	0.049	36.552
32	10	0.271	0.007	0.026	30.606
33	5	0.388	0.016	0.056	32.119
34	7	0.251	0.003	0.020	21.109
35	6	0.350	0.022	0.060	42.200
36	4	0.234	0.004	0.033	28.461
37	2	0.286	0.001	0.024	11.868
38	1	0.231	na	na	na
39	4	0.349	0.015	0.062	35.426
40	2	0.205	0.000	0.012	8.644
Average for Treatment	4.6	0.286	0.004	0.019	20.964

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY**

WML-1 LARVAE AND WATER/SEDIMENT (N=6)

(Data Shared with Main Developmental Study)

Egg Mass ID	Number Metamorphs		Mean		SEM	CV (%)
	Weighed		Weight (g)	Var (S ²)		
H9-TAWLRS41-0-EM01	11		0.221	0.004	0.019	28.655
H9-TAWLRS41-0-EM02	24		0.257	0.004	0.013	24.297
H9-TAWLRS41-0-EM03	32		0.300	0.015	0.021	40.294
H9-TAWLRS41-0-EM04	34		0.242	0.007	0.014	33.983
H9-TAWLRS41-0-EM05	5		0.341	0.047	0.097	63.821
H9-TAWLRS41-1-EM05	27		0.298	0.006	0.015	26.029
Average for Treatment	22.2		0.276	0.002	0.018	15.977

WML-2 LARVAE AND WATER/SEDIMENT (N=6)

(Data Shared with Main Developmental Study)

Egg Mass ID	Number Metamorphs		Mean		SEM	CV (%)
	Weighed		Weight (g)	Var (S ²)		
H9-TAWLRS42-0-EM01	10		0.274	0.006	0.024	27.690
H9-TAWLRS42-0-EM02	17		0.252	0.004	0.015	24.180
H9-TAWLRS42-0-EM03	7		0.292	0.006	0.030	27.324
H9-TAWLRS42-0-EM04	9		0.249	0.004	0.021	25.623
H9-TAWLRS42-0-EM05	20		0.294	0.008	0.021	31.228
H9-TAWLRS42-1-EM05	11		0.249	0.014	0.035	47.120
Average for Treatment	12.3		0.268	0.000	0.009	7.911

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY**

38-VP-2 LARVAE IN WML-2 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S ²)	SEM	CV (%)
11	3	0	0.0			
12	10	1	10.0			
13	3	2	66.7			
14	2	0	0.0			
15	8	1	12.5			
16	8	0	0.0			
17	6	1	16.7			
18	6	2	33.3			
19	10	1	10.0			
20	15	1	6.7			
Average for Treatment	7.1	0.9	15.6	422.847	6.503	131.957

38-VP-1 LARVAE IN WML-1 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S ²)	SEM	CV (%)
1	11	2	18.2			
2	9	2	22.2			
3	6	0	0.0			
4	8	0	0.0			
5	5	1	20.0			
6	6	0	0.0			
7	9	1	11.1			
8	6	0	0.0			
9	9	2	22.2			
10	5	0	0.0			
Average for Treatment	7.4	0.8	9.4	107.002	3.271	110.353

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY**

WML-1 LARVAE IN 38-VP-1 WATER/SEDIMENT (N=7)

Replicate Tub Number	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
21	2	1	50.0			
22	na	na	na			
23	4	0	0.0			
24	13	2	15.4			
25	16	2	12.5			
26	13	4	30.8			
27	7	1	14.3			
28	1	0	0.0			
Average for Treatment	8.0	1.4	17.6	314.100	6.699	100.911

WML-2 LARVAE IN 38-VP-2 WATER/SEDIMENT (N=10)

Replicate Tub Number	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
31	5	1	20.0			
32	10	2	20.0			
33	5	0	0.0			
34	7	2	28.6			
35	6	1	16.7			
36	4	0	0.0			
37	2	1	50.0			
38	1	0	0.0			
39	4	1	25.0			
40	2	0	0.0			
Average for Treatment	4.6	0.8	16.0	272.387	5.219	102.998

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH ABNORMALITY DATA
COMBINED DATA SUMMARY**

**WML-1 LARVAE AND WATER/SEDIMENT (N=6)
(Data Shared with Main Developmental Study)**

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H9-TAWLRS41-0-EM01	11	0	0.0			
H9-TAWLRS41-0-EM02	24	0	0.0			
H9-TAWLRS41-0-EM03	32	0	0.0			
H9-TAWLRS41-0-EM04	34	1	2.9			
H9-TAWLRS41-0-EM05	5	0	0.0			
H9-TAWLRS41-1-EM05	27	0	0.0			
Average for Treatment	22.2	0.2	0.5	1.442	0.490	244.949

**WML-2 LARVAE AND WATER/SEDIMENT (N=6)
(Data Shared with Main Developmental Study)**

Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S²)	SEM	CV (%)
H9-TAWLRS42-0-EM01	10	0	0.0			
H9-TAWLRS42-0-EM02	17	1	5.9			
H9-TAWLRS42-0-EM03	7	0	0.0			
H9-TAWLRS42-0-EM04	9	0	0.0			
H9-TAWLRS42-0-EM05	20	0	0.0			
H9-TAWLRS42-1-EM05	11	1	9.1			
Average for Treatment	12.3	0.3	2.5	15.976	1.632	160.166

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT
62.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-2
0.013 mg/kg SEDIMENT PCB CONCENTRATION IN WML-2

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21 Composite	11	06/22/00	0.263	
H3-TA08RS21 Composite	11	07/25/00	0.301	
H3-TA08RS21 Composite	11	08/02/00	0.285	
H3-TA08RS21 Composite	12	07/05/00	0.348	
H3-TA08RS21 Composite	12	07/05/00	0.356	
H3-TA08RS21 Composite	12	07/05/00	0.300	
H3-TA08RS21 Composite	12	07/11/00	0.278	
H3-TA08RS21 Composite	12	07/17/00	0.231	
H3-TA08RS21 Composite	12	07/19/00	0.242	
H3-TA08RS21 Composite	12	07/31/00	0.226	mouth
H3-TA08RS21 Composite	12	08/10/00	0.485	
H3-TA08RS21 Composite	12	08/15/00	0.315	
H3-TA08RS21 Composite	12	08/17/00	0.358	
H3-TA08RS21 Composite	13	07/11/00	0.280	
H3-TA08RS21 Composite	13	07/11/00		too decomposed or eaten to weigh
H3-TA08RS21 Composite	13	07/17/00	0.255	edema
H3-TA08RS21 Composite	13	08/15/00	0.168	mouth, eye
H3-TA08RS21 Composite	14	06/19/00	0.210	
H3-TA08RS21 Composite	14	08/21/00	0.303	
H3-TA08RS21 Composite	15	07/05/00	0.412	
H3-TA08RS21 Composite	15	07/05/00	0.331	
H3-TA08RS21 Composite	15	07/05/00	0.297	facial, mouth
H3-TA08RS21 Composite	15	07/12/00	0.216	
H3-TA08RS21 Composite	15	07/27/00	0.235	
H3-TA08RS21 Composite	15	07/27/00	0.402	
H3-TA08RS21 Composite	15	07/27/00	0.258	
H3-TA08RS21 Composite	15	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21 Composite	15	07/31/00		too decomposed or eaten to weigh
H3-TA08RS21 Composite	15	08/04/00	0.457	
H3-TA08RS21 Composite	16	06/07/00	0.146	
H3-TA08RS21 Composite	16	07/11/00	0.261	
H3-TA08RS21 Composite	16	07/11/00	0.198	
H3-TA08RS21 Composite	16	07/12/00	0.260	
H3-TA08RS21 Composite	16	07/17/00	0.189	
H3-TA08RS21 Composite	16	07/27/00	0.363	
H3-TA08RS21 Composite	16	08/02/00	0.561	
H3-TA08RS21 Composite	16	08/10/00		too decomposed or eaten to weigh
H3-TA08RS21 Composite	16	08/15/00	0.641	
H3-TA08RS21 Composite	17	06/22/00	0.148	
H3-TA08RS21 Composite	17	06/26/00	0.278	
H3-TA08RS21 Composite	17	06/28/00	0.226	
H3-TA08RS21 Composite	17	06/29/00	0.171	facial, eye (lens)
H3-TA08RS21 Composite	17	07/17/00	0.189	
H3-TA08RS21 Composite	17	07/17/00	0.140	
H3-TA08RS21 Composite	18	06/15/00	0.221	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 21 (38-VP-2) LARVAE IN SITE 42 (WML-2) WATER/SEDIMENT
62.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-2
0.013 mg/kg SEDIMENT PCB CONCENTRATION IN WML-2

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS21 Composite	18	06/28/00	0.184	
H3-TA08RS21 Composite	18	07/12/00	0.256	hindlimb (fused digits)
H3-TA08RS21 Composite	18	07/25/00	0.370	
H3-TA08RS21 Composite	18	07/25/00	0.284	
H3-TA08RS21 Composite	18	08/02/00	0.295	facial, mouth
H3-TA08RS21 Composite	19	06/21/00	0.201	
H3-TA08RS21 Composite	19	06/22/00	0.386	
H3-TA08RS21 Composite	19	06/28/00	0.478	
H3-TA08RS21 Composite	19	07/03/00	0.376	
H3-TA08RS21 Composite	19	07/05/00	0.224	
H3-TA08RS21 Composite	19	07/11/00	0.208	
H3-TA08RS21 Composite	19	07/17/00	0.328	edema
H3-TA08RS21 Composite	19	08/02/00	0.479	
H3-TA08RS21 Composite	19	08/04/00	0.436	
H3-TA08RS21 Composite	19	08/10/00	0.518	
H3-TA08RS21 Composite	20	06/06/00	0.180	
H3-TA08RS21 Composite	20	06/22/00	0.242	
H3-TA08RS21 Composite	20	06/29/00	0.203	
H3-TA08RS21 Composite	20	07/03/00	0.291	
H3-TA08RS21 Composite	20	07/05/00	0.264	
H3-TA08RS21 Composite	20	07/06/00	0.272	mouth
H3-TA08RS21 Composite	20	07/06/00	0.430	
H3-TA08RS21 Composite	20	07/17/00	0.151	
H3-TA08RS21 Composite	20	07/17/00	0.209	
H3-TA08RS21 Composite	20	07/19/00	0.326	
H3-TA08RS21 Composite	20	07/25/00	0.250	
H3-TA08RS21 Composite	20	07/25/00	0.300	
H3-TA08RS21 Composite	20	07/25/00	0.311	
H3-TA08RS21 Composite	20	08/02/00	0.438	
H3-TA08RS21 Composite	20	08/10/00	0.514	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT
28.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-1
0.007 mg/kg SEDIMENT PCB CONCENTRATION IN WML-1

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30 Composite	1	06/06/00	0.141	facial, eye
H3-TA08RS30 Composite	1	06/19/00	0.319	
H3-TA08RS30 Composite	1	06/19/00	0.249	
H3-TA08RS30 Composite	1	06/27/00	0.258	
H3-TA08RS30 Composite	1	06/29/00	0.298	facial, eye
H3-TA08RS30 Composite	1	06/29/00	0.416	
H3-TA08RS30 Composite	1	06/29/00	0.324	
H3-TA08RS30 Composite	1	07/11/00	0.351	
H3-TA08RS30 Composite	1	07/11/00	0.301	
H3-TA08RS30 Composite	1	07/11/00	0.225	
H3-TA08RS30 Composite	1	07/11/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	1	07/25/00	0.208	
H3-TA08RS30 Composite	2	06/26/00	0.186	
H3-TA08RS30 Composite	2	07/06/00	0.264	
H3-TA08RS30 Composite	2	07/11/00	0.215	
H3-TA08RS30 Composite	2	07/12/00	0.249	
H3-TA08RS30 Composite	2	07/17/00	0.265	edema
H3-TA08RS30 Composite	2	07/17/00	0.161	
H3-TA08RS30 Composite	2	07/25/00	0.149	facial
H3-TA08RS30 Composite	2	08/15/00	0.226	
H3-TA08RS30 Composite	2	08/15/00	0.290	
H3-TA08RS30 Composite	3	07/05/00	0.257	
H3-TA08RS30 Composite	3	07/25/00	0.275	
H3-TA08RS30 Composite	3	07/27/00	0.202	
H3-TA08RS30 Composite	3	07/27/00	0.351	
H3-TA08RS30 Composite	3	07/27/00	0.354	
H3-TA08RS30 Composite	3	08/10/00	0.399	
H3-TA08RS30 Composite	4	06/06/00	0.196	
H3-TA08RS30 Composite	4	07/05/00	0.261	
H3-TA08RS30 Composite	4	07/11/00	0.531	
H3-TA08RS30 Composite	4	07/11/00	0.344	
H3-TA08RS30 Composite	4	07/11/00	0.236	
H3-TA08RS30 Composite	4	07/11/00	0.144	
H3-TA08RS30 Composite	4	07/11/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	4	07/27/00	0.179	
H3-TA08RS30 Composite	4	07/27/00	0.297	
H3-TA08RS30 Composite	5	06/06/00	0.111	
H3-TA08RS30 Composite	5	07/12/00	0.271	
H3-TA08RS30 Composite	5	07/31/00	0.287	
H3-TA08RS30 Composite	5	07/31/00	0.245	edema, mouth
H3-TA08RS30 Composite	5	08/17/00	0.247	
H3-TA08RS30 Composite	6	06/27/00	0.144	
H3-TA08RS30 Composite	6	06/29/00	0.350	
H3-TA08RS30 Composite	6	07/03/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	6	07/06/00	0.330	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 30 (38-VP-1) LARVAE IN SITE 41 (WML-1) WATER/SEDIMENT
28.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-1
0.007 mg/kg SEDIMENT PCB CONCENTRATION IN WML-1

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H3-TA08RS30 Composite	6	07/25/00	0.249	
H3-TA08RS30 Composite	6	07/27/00	0.234	
H3-TA08RS30 Composite	6	08/02/00	0.771	
H3-TA08RS30 Composite	7	07/03/00	0.258	
H3-TA08RS30 Composite	7	07/03/00	0.255	
H3-TA08RS30 Composite	7	07/03/00	0.296	
H3-TA08RS30 Composite	7	07/03/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	7	07/06/00	0.209	
H3-TA08RS30 Composite	7	07/11/00	0.192	
H3-TA08RS30 Composite	7	07/11/00	0.209	
H3-TA08RS30 Composite	7	07/11/00	0.252	spine flexure
H3-TA08RS30 Composite	7	07/31/00	0.238	
H3-TA08RS30 Composite	7	08/04/00	0.223	
H3-TA08RS30 Composite	7	08/17/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	8	06/27/00	0.355	
H3-TA08RS30 Composite	8	06/29/00	0.311	
H3-TA08RS30 Composite	8	07/03/00	0.349	
H3-TA08RS30 Composite	8	07/06/00	0.274	
H3-TA08RS30 Composite	8	07/11/00	0.202	
H3-TA08RS30 Composite	8	07/11/00		too decomposed or eaten to weigh
H3-TA08RS30 Composite	8	07/19/00	0.210	
H3-TA08RS30 Composite	9	07/05/00	0.276	facial, mouth
H3-TA08RS30 Composite	9	07/11/00	0.200	edema
H3-TA08RS30 Composite	9	07/11/00	0.257	
H3-TA08RS30 Composite	9	07/17/00	0.200	
H3-TA08RS30 Composite	9	07/17/00	0.270	
H3-TA08RS30 Composite	9	07/19/00	0.242	
H3-TA08RS30 Composite	9	07/27/00	0.239	
H3-TA08RS30 Composite	9	07/31/00	0.210	
H3-TA08RS30 Composite	9	08/02/00	0.399	
H3-TA08RS30 Composite	10	07/11/00	0.228	
H3-TA08RS30 Composite	10	07/11/00	0.281	
H3-TA08RS30 Composite	10	07/11/00	0.173	
H3-TA08RS30 Composite	10	07/11/00	0.248	
H3-TA08RS30 Composite	10	08/10/00	0.139	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT
0.007 mg/kg SEDIMENT PCB CONCENTRATION IN WML-1
28.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-1

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41 Composite	21	06/14/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	21	06/14/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	21	06/14/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	21	06/21/00	0.332	
H9-TAWLRS41 Composite	21	06/22/00	0.143	facial, spine flexure
H9-TAWLRS41 Composite	23	06/01/00	0.167	
H9-TAWLRS41 Composite	23	06/01/00	0.187	
H9-TAWLRS41 Composite	23	06/05/00	0.145	
H9-TAWLRS41 Composite	23	06/14/00	0.367	
H9-TAWLRS41 Composite	23	06/14/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	23	06/14/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	23	06/21/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	24	06/06/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	24	06/14/00	0.168	
H9-TAWLRS41 Composite	24	06/23/00	0.241	
H9-TAWLRS41 Composite	24	06/23/00	0.226	
H9-TAWLRS41 Composite	24	06/29/00	0.299	
H9-TAWLRS41 Composite	24	07/11/00	0.230	
H9-TAWLRS41 Composite	24	07/18/00	0.227	
H9-TAWLRS41 Composite	24	07/18/00	0.572	
H9-TAWLRS41 Composite	24	07/18/00	0.226	
H9-TAWLRS41 Composite	24	07/18/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	24	07/18/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	24	07/21/00	0.601	
H9-TAWLRS41 Composite	24	07/27/00	0.211	facial, mouth
H9-TAWLRS41 Composite	24	07/31/00	0.534	
H9-TAWLRS41 Composite	24	07/31/00	0.304	facial, mouth
H9-TAWLRS41 Composite	24	08/02/00	0.544	
H9-TAWLRS41 Composite	25	06/19/00	0.300	
H9-TAWLRS41 Composite	25	06/22/00	0.182	
H9-TAWLRS41 Composite	25	06/26/00	0.262	
H9-TAWLRS41 Composite	25	06/29/00	0.409	
H9-TAWLRS41 Composite	25	06/29/00	0.390	
H9-TAWLRS41 Composite	25	07/11/00	0.483	
H9-TAWLRS41 Composite	25	07/11/00	0.252	
H9-TAWLRS41 Composite	25	07/13/00	0.336	
H9-TAWLRS41 Composite	25	07/13/00	0.414	
H9-TAWLRS41 Composite	25	07/13/00	0.302	
H9-TAWLRS41 Composite	25	07/18/00	0.349	edema
H9-TAWLRS41 Composite	25	07/21/00	0.373	mouth
H9-TAWLRS41 Composite	25	07/24/00	0.534	
H9-TAWLRS41 Composite	25	07/24/00	0.394	
H9-TAWLRS41 Composite	25	07/24/00	0.245	
H9-TAWLRS41 Composite	25	07/31/00	0.532	
H9-TAWLRS41 Composite	25	08/10/00		too decomposed or eaten to weigh

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1) LARVAE IN SITE 30 (38-VP-1) WATER/SEDIMENT
0.007 mg/kg SEDIMENT PCB CONCENTRATION IN WML-1
28.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-1

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41 Composite	26	06/19/00	0.219	
H9-TAWLRS41 Composite	26	06/21/00	0.228	
H9-TAWLRS41 Composite	26	06/26/00	0.258	
H9-TAWLRS41 Composite	26	06/26/00	0.137	facial, eye
H9-TAWLRS41 Composite	26	07/03/00	0.259	
H9-TAWLRS41 Composite	26	07/05/00	0.308	eye (lens)
H9-TAWLRS41 Composite	26	07/11/00		too decomposed or eaten to weigh
H9-TAWLRS41 Composite	26	07/13/00	0.645	
H9-TAWLRS41 Composite	26	07/18/00	0.390	edema, facial, mouth
H9-TAWLRS41 Composite	26	07/18/00	0.343	edema, facial, mouth
H9-TAWLRS41 Composite	26	07/21/00	0.652	
H9-TAWLRS41 Composite	26	07/31/00	0.543	
H9-TAWLRS41 Composite	26	07/31/00	0.570	
H9-TAWLRS41 Composite	26	08/10/00	0.866	
H9-TAWLRS41 Composite	27	06/21/00	0.247	
H9-TAWLRS41 Composite	27	06/29/00	0.254	
H9-TAWLRS41 Composite	27	07/18/00	0.391	eye (lens)
H9-TAWLRS41 Composite	27	07/19/00	0.516	
H9-TAWLRS41 Composite	27	07/21/00	0.609	
H9-TAWLRS41 Composite	27	07/21/00	0.397	
H9-TAWLRS41 Composite	27	07/31/00	0.386	
H9-TAWLRS41 Composite	28	05/30/00	0.117	

HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT
0.013 mg/kg SEDIMENT PCB CONCENTRATION IN WML-2
62.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-2

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42 Composite	31	06/22/00	0.398	facial, mouth
H9-TAWLRS42 Composite	31	07/11/00	0.405	
H9-TAWLRS42 Composite	31	07/13/00	0.261	
H9-TAWLRS42 Composite	31	07/18/00	0.141	
H9-TAWLRS42 Composite	31	07/27/00	0.287	
H9-TAWLRS42 Composite	32	06/29/00	0.423	
H9-TAWLRS42 Composite	32	06/29/00	0.326	
H9-TAWLRS42 Composite	32	07/11/00	0.220	forelimb digit, spine
H9-TAWLRS42 Composite	32	07/11/00		too decomposed or eaten to weigh
H9-TAWLRS42 Composite	32	07/13/00	0.193	
H9-TAWLRS42 Composite	32	07/18/00	0.167	
H9-TAWLRS42 Composite	32	07/18/00	0.241	
H9-TAWLRS42 Composite	32	07/21/00	0.195	
H9-TAWLRS42 Composite	32	07/24/00	0.364	
H9-TAWLRS42 Composite	32	07/24/00	0.282	
H9-TAWLRS42 Composite	32	07/24/00	0.303	eye (lens)
H9-TAWLRS42 Composite	33	06/23/00	0.355	
H9-TAWLRS42 Composite	33	07/03/00	0.391	
H9-TAWLRS42 Composite	33	07/05/00	0.199	
H9-TAWLRS42 Composite	33	07/11/00	0.476	
H9-TAWLRS42 Composite	33	07/11/00	0.521	
H9-TAWLRS42 Composite	34	06/23/00	0.226	
H9-TAWLRS42 Composite	34	06/29/00	0.245	
H9-TAWLRS42 Composite	34	06/29/00	0.275	
H9-TAWLRS42 Composite	34	07/06/00	0.269	eye (lens)
H9-TAWLRS42 Composite	34	07/24/00	0.222	
H9-TAWLRS42 Composite	34	07/31/00	0.345	
H9-TAWLRS42 Composite	34	07/31/00	0.176	facial, eye, mouth
H9-TAWLRS42 Composite	35	06/29/00	0.269	mouth
H9-TAWLRS42 Composite	35	07/11/00	0.409	
H9-TAWLRS42 Composite	35	07/11/00	0.603	
H9-TAWLRS42 Composite	35	07/11/00	0.294	
H9-TAWLRS42 Composite	35	07/24/00	0.172	
H9-TAWLRS42 Composite	35	08/02/00	0.351	
H9-TAWLRS42 Composite	36	07/06/00	0.325	
H9-TAWLRS42 Composite	36	07/21/00	0.172	
H9-TAWLRS42 Composite	36	07/21/00	0.200	
H9-TAWLRS42 Composite	36	07/24/00	0.239	
H9-TAWLRS42 Composite	37	07/18/00	0.310	facial, mouth
H9-TAWLRS42 Composite	37	07/24/00	0.262	
H9-TAWLRS42 Composite	37	08/14/00		too decomposed or eaten to weigh
H9-TAWLRS42 Composite	38	07/31/00	0.231	
H9-TAWLRS42 Composite	39	07/13/00	0.305	
H9-TAWLRS42 Composite	39	07/19/00	0.417	
H9-TAWLRS42 Composite	39	07/21/00	0.197	

**HOUSATONIC RIVER PROJECT
VERNAL POOL CROSSOVER STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2) LARVAE IN SITE 21 (38-VP-2) WATER/SEDIMENT
0.013 mg/kg SEDIMENT PCB CONCENTRATION IN WML-2
62.0 mg/kg SEDIMENT PCB CONCENTRATION IN 38-VP-2**

Sample ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42 Composite	39	07/24/00	0.476	hindlimb (femur)
H9-TAWLRS42 Composite	40	07/31/00	0.192	
H9-TAWLRS42 Composite	40	07/31/00	0.217	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.007 mg/kg SEDIMENT PCB CONCENTRATION
(Data Shared with Main Developmental Study)

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM01	07/05/00	0.211	
H9-TAWLRS41-0-EM01	07/05/00	0.158	
H9-TAWLRS41-0-EM01	07/05/00	0.184	
H9-TAWLRS41-0-EM01	07/13/00	0.251	
H9-TAWLRS41-0-EM01	07/13/00	0.237	
H9-TAWLRS41-0-EM01	07/19/00	0.182	
H9-TAWLRS41-0-EM01	07/28/00	0.192	
H9-TAWLRS41-0-EM01	07/28/00	0.232	
H9-TAWLRS41-0-EM01	07/31/00	0.391	
H9-TAWLRS41-0-EM01	08/02/00	0.215	
H9-TAWLRS41-0-EM01	08/04/00	0.176	
H9-TAWLRS41-0-EM02	06/26/00	0.216	
H9-TAWLRS41-0-EM02	07/03/00	0.288	
H9-TAWLRS41-0-EM02	07/03/00	0.237	
H9-TAWLRS41-0-EM02	07/05/00	0.214	
H9-TAWLRS41-0-EM02	07/06/00	0.194	
H9-TAWLRS41-0-EM02	07/06/00	0.301	
H9-TAWLRS41-0-EM02	07/11/00	0.251	
H9-TAWLRS41-0-EM02	07/13/00	0.265	
H9-TAWLRS41-0-EM02	07/20/00	0.265	
H9-TAWLRS41-0-EM02	07/25/00	0.202	
H9-TAWLRS41-0-EM02	07/25/00	0.277	
H9-TAWLRS41-0-EM02	07/27/00	0.292	
H9-TAWLRS41-0-EM02	07/27/00	0.328	
H9-TAWLRS41-0-EM02	07/31/00	0.191	
H9-TAWLRS41-0-EM02	07/31/00	0.402	
H9-TAWLRS41-0-EM02	08/02/00	0.204	
H9-TAWLRS41-0-EM02	08/02/00	0.384	
H9-TAWLRS41-0-EM02	08/10/00	0.175	
H9-TAWLRS41-0-EM02	08/10/00	0.215	
H9-TAWLRS41-0-EM02	08/17/00	0.178	
H9-TAWLRS41-0-EM02	08/21/00	0.290	
H9-TAWLRS41-0-EM02	08/21/00	0.329	
H9-TAWLRS41-0-EM02	08/23/00	0.198	
H9-TAWLRS41-0-EM02	09/07/00	0.270	
H9-TAWLRS41-0-EM03	06/06/00	0.184	
H9-TAWLRS41-0-EM03	06/26/00	0.215	
H9-TAWLRS41-0-EM03	06/26/00	0.130	
H9-TAWLRS41-0-EM03	07/03/00	0.283	
H9-TAWLRS41-0-EM03	07/03/00	0.237	
H9-TAWLRS41-0-EM03	07/06/00	0.269	
H9-TAWLRS41-0-EM03	07/11/00	0.311	
H9-TAWLRS41-0-EM03	07/13/00	0.266	
H9-TAWLRS41-0-EM03	07/17/00	0.244	
H9-TAWLRS41-0-EM03	07/17/00	0.231	
H9-TAWLRS41-0-EM03	07/25/00	0.239	
H9-TAWLRS41-0-EM03	07/31/00	0.330	
H9-TAWLRS41-0-EM03	07/31/00	0.182	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.007 mg/kg SEDIMENT PCB CONCENTRATION
(Data Shared with Main Developmental Study)

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM03	08/02/00	0.276	
H9-TAWLRS41-0-EM03	08/03/00	0.336	
H9-TAWLRS41-0-EM03	08/04/00	0.306	
H9-TAWLRS41-0-EM03	08/04/00	0.337	
H9-TAWLRS41-0-EM03	08/04/00	0.303	
H9-TAWLRS41-0-EM03	08/04/00	0.230	
H9-TAWLRS41-0-EM03	08/04/00	0.302	
H9-TAWLRS41-0-EM03	08/15/00	0.340	
H9-TAWLRS41-0-EM03	08/15/00	0.286	
H9-TAWLRS41-0-EM03	08/15/00	0.240	
H9-TAWLRS41-0-EM03	08/15/00	0.266	
H9-TAWLRS41-0-EM03	08/16/00	0.289	
H9-TAWLRS41-0-EM03	08/16/00	0.292	
H9-TAWLRS41-0-EM03	08/16/00	0.398	
H9-TAWLRS41-0-EM03	08/21/00	0.272	
H9-TAWLRS41-0-EM03	08/28/00	0.858	
H9-TAWLRS41-0-EM03	09/01/00	0.301	
H9-TAWLRS41-0-EM03	09/01/00	0.371	
H9-TAWLRS41-0-EM03	09/07/00	0.467	
H9-TAWLRS41-0-EM04	06/07/00	0.230	
H9-TAWLRS41-0-EM04	06/19/00	0.234	
H9-TAWLRS41-0-EM04	06/19/00	0.173	
H9-TAWLRS41-0-EM04	06/22/00	0.250	
H9-TAWLRS41-0-EM04	06/22/00	0.217	
H9-TAWLRS41-0-EM04	06/22/00	0.311	
H9-TAWLRS41-0-EM04	06/27/00	0.305	
H9-TAWLRS41-0-EM04	06/27/00	0.264	
H9-TAWLRS41-0-EM04	07/03/00	0.247	
H9-TAWLRS41-0-EM04	07/03/00	0.183	
H9-TAWLRS41-0-EM04	07/03/00	0.264	
H9-TAWLRS41-0-EM04	07/05/00	0.289	
H9-TAWLRS41-0-EM04	07/05/00	0.213	
H9-TAWLRS41-0-EM04	07/06/00	0.264	
H9-TAWLRS41-0-EM04	07/11/00	0.220	
H9-TAWLRS41-0-EM04	07/13/00	0.170	
H9-TAWLRS41-0-EM04	07/13/00	0.239	
H9-TAWLRS41-0-EM04	07/13/00	0.195	
H9-TAWLRS41-0-EM04	07/13/00	0.171	
H9-TAWLRS41-0-EM04	07/17/00	0.231	edema
H9-TAWLRS41-0-EM04	07/17/00	0.238	
H9-TAWLRS41-0-EM04	07/17/00	0.210	
H9-TAWLRS41-0-EM04	07/17/00	0.219	
H9-TAWLRS41-0-EM04	07/19/00	0.239	
H9-TAWLRS41-0-EM04	07/27/00	0.215	
H9-TAWLRS41-0-EM04	07/27/00	0.188	
H9-TAWLRS41-0-EM04	07/31/00	0.161	
H9-TAWLRS41-0-EM04	07/31/00	0.216	
H9-TAWLRS41-0-EM04	07/31/00		too decomposed or eaten to weigh

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VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 41 (WML-1), 0.007 mg/kg SEDIMENT PCB CONCENTRATION
(Data Shared with Main Developmental Study)

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS41-0-EM04	08/02/00	0.223	
H9-TAWLRS41-0-EM04	08/02/00	0.303	
H9-TAWLRS41-0-EM04	08/02/00	0.276	
H9-TAWLRS41-0-EM04	08/04/00	0.218	
H9-TAWLRS41-0-EM04	08/04/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/10/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/15/00		too decomposed or eaten to weigh
H9-TAWLRS41-0-EM04	08/16/00	0.209	
H9-TAWLRS41-0-EM04	08/21/00	0.653	
H9-TAWLRS41-0-EM05	07/03/00	0.191	
H9-TAWLRS41-0-EM05	08/15/00	0.264	
H9-TAWLRS41-0-EM05	08/17/00	0.277	
H9-TAWLRS41-0-EM05	08/21/00	0.246	
H9-TAWLRS41-0-EM05	08/21/00	0.725	
H9-TAWLRS41-1-EM05	06/06/00	0.216	
H9-TAWLRS41-1-EM05	06/13/00	0.252	
H9-TAWLRS41-1-EM05	06/29/00	0.295	
H9-TAWLRS41-1-EM05	07/03/00	0.219	
H9-TAWLRS41-1-EM05	07/03/00		too decomposed or eaten to weigh
H9-TAWLRS41-1-EM05	07/05/00	0.297	
H9-TAWLRS41-1-EM05	07/05/00	0.341	
H9-TAWLRS41-1-EM05	07/05/00	0.264	
H9-TAWLRS41-1-EM05	07/05/00	0.340	
H9-TAWLRS41-1-EM05	07/11/00	0.235	
H9-TAWLRS41-1-EM05	07/13/00	0.219	
H9-TAWLRS41-1-EM05	07/13/00	0.377	
H9-TAWLRS41-1-EM05	07/17/00	0.292	
H9-TAWLRS41-1-EM05	07/27/00	0.438	
H9-TAWLRS41-1-EM05	07/27/00	0.296	
H9-TAWLRS41-1-EM05	07/27/00	0.226	
H9-TAWLRS41-1-EM05	07/31/00	0.216	
H9-TAWLRS41-1-EM05	08/02/00	0.237	
H9-TAWLRS41-1-EM05	08/02/00	0.422	
H9-TAWLRS41-1-EM05	08/02/00	0.283	
H9-TAWLRS41-1-EM05	08/04/00	0.222	
H9-TAWLRS41-1-EM05	08/04/00	0.277	
H9-TAWLRS41-1-EM05	08/04/00	0.262	
H9-TAWLRS41-1-EM05	08/04/00	0.491	
H9-TAWLRS41-1-EM05	08/10/00	0.221	
H9-TAWLRS41-1-EM05	08/15/00	0.322	
H9-TAWLRS41-1-EM05	08/23/00	0.416	
H9-TAWLRS41-1-EM05	08/29/00	0.358	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2), 0.013 mg/kg SEDIMENT PCB CONCENTRATION
(Data Shared with Main Developmental Study)

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42-0-EM01	06/13/00	0.240	
H9-TAWLRS42-0-EM01	06/13/00	0.216	
H9-TAWLRS42-0-EM01	06/26/00	0.241	
H9-TAWLRS42-0-EM01	06/26/00	0.371	
H9-TAWLRS42-0-EM01	06/26/00	0.312	
H9-TAWLRS42-0-EM01	06/26/00	0.375	
H9-TAWLRS42-0-EM01	06/27/00	0.352	
H9-TAWLRS42-0-EM01	07/05/00	0.204	
H9-TAWLRS42-0-EM01	07/05/00	0.155	
H9-TAWLRS42-0-EM01	07/13/00	0.274	
H9-TAWLRS42-0-EM02	06/09/00	0.185	facial
H9-TAWLRS42-0-EM02	06/13/00	0.279	
H9-TAWLRS42-0-EM02	06/19/00	0.313	
H9-TAWLRS42-0-EM02	06/19/00	0.298	
H9-TAWLRS42-0-EM02	06/19/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM02	07/03/00	0.228	
H9-TAWLRS42-0-EM02	07/05/00	0.209	
H9-TAWLRS42-0-EM02	07/06/00	0.190	
H9-TAWLRS42-0-EM02	07/13/00	0.260	
H9-TAWLRS42-0-EM02	07/13/00	0.204	
H9-TAWLRS42-0-EM02	08/02/00	0.205	
H9-TAWLRS42-0-EM02	08/04/00	0.237	
H9-TAWLRS42-0-EM02	08/04/00	0.288	
H9-TAWLRS42-0-EM02	08/04/00	0.431	
H9-TAWLRS42-0-EM02	08/10/00	0.221	
H9-TAWLRS42-0-EM02	08/17/00	0.239	
H9-TAWLRS42-0-EM02	08/23/00	0.212	
H9-TAWLRS42-0-EM02	08/23/00	0.288	
H9-TAWLRS42-0-EM03	06/22/00	0.282	
H9-TAWLRS42-0-EM03	06/29/00	0.256	
H9-TAWLRS42-0-EM03	07/11/00	0.221	
H9-TAWLRS42-0-EM03	07/25/00	0.188	
H9-TAWLRS42-0-EM03	08/04/00	0.309	
H9-TAWLRS42-0-EM03	08/04/00	0.396	
H9-TAWLRS42-0-EM03	08/10/00	0.391	
H9-TAWLRS42-0-EM04	06/06/00	0.299	
H9-TAWLRS42-0-EM04	06/06/00	0.319	
H9-TAWLRS42-0-EM04	06/08/00	0.303	
H9-TAWLRS42-0-EM04	06/08/00	0.300	
H9-TAWLRS42-0-EM04	07/06/00	0.118	
H9-TAWLRS42-0-EM04	07/13/00	0.225	
H9-TAWLRS42-0-EM04	07/13/00	0.228	
H9-TAWLRS42-0-EM04	07/25/00	0.231	
H9-TAWLRS42-0-EM04	08/02/00	0.216	
H9-TAWLRS42-0-EM05	06/08/00	0.161	
H9-TAWLRS42-0-EM05	06/08/00	0.178	
H9-TAWLRS42-0-EM05	06/19/00	0.337	
H9-TAWLRS42-0-EM05	06/19/00	0.293	

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 42 (WML-2), 0.013 mg/kg SEDIMENT PCB CONCENTRATION
(Data Shared with Main Developmental Study)**

Sample ID Number	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS42-0-EM05	06/21/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM05	06/22/00	0.217	
H9-TAWLRS42-0-EM05	06/26/00	0.216	
H9-TAWLRS42-0-EM05	06/26/00	0.281	
H9-TAWLRS42-0-EM05	06/26/00	0.350	
H9-TAWLRS42-0-EM05	07/03/00	0.274	
H9-TAWLRS42-0-EM05	07/03/00	0.260	
H9-TAWLRS42-0-EM05	07/05/00	0.244	
H9-TAWLRS42-0-EM05	07/05/00	0.322	
H9-TAWLRS42-0-EM05	07/06/00	0.270	
H9-TAWLRS42-0-EM05	07/11/00	0.593	
H9-TAWLRS42-0-EM05	07/13/00	0.285	
H9-TAWLRS42-0-EM05	07/19/00	0.310	
H9-TAWLRS42-0-EM05	07/25/00	0.279	
H9-TAWLRS42-0-EM05	07/27/00	0.368	
H9-TAWLRS42-0-EM05	07/27/00	0.254	
H9-TAWLRS42-0-EM05	07/27/00		too decomposed or eaten to weigh
H9-TAWLRS42-0-EM05	08/10/00	0.392	
H9-TAWLRS42-1-EM05	06/01/00	0.133	
H9-TAWLRS42-1-EM05	06/06/00	0.292	
H9-TAWLRS42-1-EM05	06/07/00	0.320	
H9-TAWLRS42-1-EM05	06/28/00	0.151	eye (edema)
H9-TAWLRS42-1-EM05	06/29/00	0.210	
H9-TAWLRS42-1-EM05	07/05/00	0.261	
H9-TAWLRS42-1-EM05	07/11/00	0.134	
H9-TAWLRS42-1-EM05	07/13/00	0.182	
H9-TAWLRS42-1-EM05	07/13/00	0.242	
H9-TAWLRS42-1-EM05	07/25/00	0.273	
H9-TAWLRS42-1-EM05	08/17/00	0.546	

Appendix C

Amphibian Study - WF Survival at end of observation period								
Start Date:	Test ID:			Sample ID:			Crossover	
End Date:	Lab ID:			Sample Type:				
Sample Date:	Protocol:			Test Species:			Rana sylvatica	
Comments:	Wood frog - Crossover Study - survival observed to final test end (FIN)							
Conc-mg/Kg	1	2	3	4	5	6	7	8
L41M30	0.2000	0.0000	0.2800	0.6400	0.6800	0.5600	0.2800	0.0588
L30M30	0.7200	0.6600	0.7300	0.7800	0.8100	0.7500		

Transform: Arcsin Square Root								1-Tailed	
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical
L41M30	0.3374	0.2606	0.5833	0.1002	0.9695	54.206	8		
L30M30	0.7417	0.0519	1.0392	0.9483	1.1198	5.709	6	-3.986	1.895
									MSD
									0.2167

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.935128	0.825	-0.25646	0.534875		
F-Test indicates unequal variances (p = 1.96E-03)	28.3959	14.2004				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Heteroscedastic t Test indicates no significant differences	0.17488	0.576486	0.712737	0.059783	0.00478	1, 12

Notes:

L41M30 = WML-1 larvae cultured in 38VP-1 media; L30M30 = 38VP-1 larvae cultured in 38VP-1 media

To identify if there were possible transfer of PCB effects from mother to offspring, test for differences between groups where larvae are from target and reference sites but cultured in the same media

Higher survival in larvae from 38VP-1 exposed mothers therefore no hypothesis test necessary; hypothesized that larvae from 38VP-1 cultured in 38VP-1 media will have higher mortality than WML-1 larvae cultured in 38VP-1 media

Appendix C

Amphibian Study - WF Survival at end of observation period										
Start Date:	Test ID:				Sample ID:			Crossover		
End Date:	Lab ID:				Sample Type:					
Sample Date:	Protocol:				Test Species:			Rana sylvatica		
Comments:	Wood frog - Crossover Study - survival observed to final test end (FIN)									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L42M21	0.2000	0.4400	0.2000	0.2800	0.2400	0.1600	0.1200	0.0400	0.1600	0.0800
L21M21	0.4200	0.4900	0.5500	0.4100	0.5000	0.5200				

Conc-mg/Kg	Mean	SD	Transform: Arcsin Square Root					t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%	N			
L42M21	0.1920	0.1128	0.4387	0.2014	0.7253	33.205	10			
L21M21	0.4817	0.0556	0.7669	0.6949	0.8355	7.285	6	-5.233	1.761	0.1105

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.955047		0.844	0.371383	1.96277	
F-Test indicates equal variances (p = 0.05)	6.797376		13.77157			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.076512	0.424068	0.404028	0.014756	1.3E-04	1, 14

Notes:

L42M21 = WML-2 larvae cultured in 38VP-2 media; L21M21 = 38VP-2 larvae cultured in 38VP-2 media

To identify if there were possible transfer of PCB effects from mother to offspring, test for differences between groups where larvae are from target and reference sites but cultured in the same media

Higher survival in larvae from 38VP-2 exposed mothers therefore no hypothesis test necessary; expected that larvae from 38VP-2 cultured in 38VP-2 media will have higher mortality than WML-2 larvae cultured in 38VP-2 media

Appendix C

Amphibian Study - WF Survival at end of observation period										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - survival observed to final test end (FIN)									
Conc-%	1	2	3	4	5	6	7	8	9	10
L41M41	0.1100	0.2400	0.3200	0.3800	0.0500	0.2800				
L30M41	0.4800	0.3600	0.2400	0.3600	0.2000	0.2800	0.4400	0.2800	0.3600	0.2000

Transform: Arcsin Square Root								1-Tailed		
Conc-%	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
L41M41	0.2300	0.1265	0.4831	0.2255	0.6642	34.703	6			
L30M41	0.3200	0.0961	0.5976	0.4636	0.7654	17.390	10	-1.701	1.761	0.1185

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution ($p > 0.01$)	0.956293	0.844	-0.40375	-0.56621		
F-Test indicates equal variances ($p = 0.20$)	2.602792	7.471044				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.088653	0.410832	0.049126	0.01698	0.111054	1, 14

Notes:

L41M41 = WML-1 larvae cultured in WML-1 media; L30M41 = 38VP-1 larvae cultured in WML-1 media

To identify if there were possible transfer of PCB effects from mother to offspring, test for differences between groups where larvae are from target and reference sites but cultured in the same media

Based on the summary statistics, mean survival in the control group (L41M41) is lower than the treatment group (L30M41) therefore no hypothesis test is needed since a decrease in survival in the treatment group is of interest

Appendix C

Amphibian Study - WF Survival at end of observation period										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - survival observed to final test end (FIN)									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L42M42	0.1000	0.1800	0.0700	0.0900	0.2200	0.1100				
L21M42	0.1200	0.4000	0.1600	0.0800	0.4000	0.3600	0.2400	0.2400	0.4000	0.6000

Transform: Arcsin Square Root								1-Tailed		
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
L42M42	0.1283	0.0585	0.3598	0.2678	0.4882	23.603	6			
L21M42	0.3000	0.1603	0.5660	0.2868	0.8861	32.445	10	-2.564	1.761	0.1416

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.961663	0.844	0.101884	0.222923		
F-Test indicates equal variances (p = 0.10)	4.676169	13.77157				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.077116	0.622172	0.159442	0.024252	0.022495	1, 14

Notes:

L42M42 = WML-2 larvae cultured in WML-2 media; L21M42 = 38VP-2 larvae cultured in WML-2 media

To identify if there were possible transfer of PCB effects from mother to offspring, test for differences between groups where larvae are from target and reference sites but cultured in the same media

Higher survival in larvae from 38VP-2 exposed mothers therefore no hypothesis test necessary

Appendix C

Amphibian Study - WF Normal Metamorphs/Live Metamorph							
Start Date:	Test ID:			Sample ID:		Crossover	
End Date:	Lab ID:			Sample Type:			
Sample Date:	Protocol:			Test Species:		Rana sylvatica	
Comments:	Wood frog - Crossover Study - total # normal metamorphs/# live metamorphs						
Conc-mg/Kg	1	2	3	4	5	6	7
L41M30	0.5000	1.0000	0.8462	0.8750	0.6923	0.8571	1.0000
L30M30	0.8732	0.8281	0.7671	0.8701	0.8101	0.8533	

Transform: Arcsin Square Root								1-Tailed	
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical
L41M30	0.8244	0.1772	1.0991	0.7854	1.3181	16.043	7		
L30M30	0.8337	0.0407	1.1529	1.0672	1.2068	4.666	6	-0.714	1.796

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.941611		0.814		-0.91773	2.198417
F-Test indicates equal variances (p = 0.02)	10.74574		14.51326			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.118661	0.149533	0.009328	0.018275	0.489842	1, 11

Notes:

L41M30 = WML-1 larvae cultured in 38VP-1 media; L30M30 = 38VP-1 larvae cultured in 38VP-1 media

Appendix C

Amphibian Study - WF Normal Metamorphs/Live Metamorph										
Start Date:	Test ID:				Sample ID:			Crossover		
End Date:	Lab ID:				Sample Type:					
Sample Date:	Protocol:				Test Species:			Rana sylvatica		
Comments:	Wood frog - Crossover Study - total # normal metamorphs/# live metamorphs									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L42M21	0.8000	0.8000	1.0000	0.7143	0.8333	1.0000	0.5000	1.0000	0.7500	1.0000
L21M21	0.8571	0.8696	0.8333	0.8333	0.7400	0.8600				

Transform: Arcsin Square Root								1-Tailed		
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
L42M21	0.8398	0.1650	1.1124	0.7854	1.3453	14.496	10			
L21M21	0.8322	0.0475	1.1513	1.0357	1.2013	5.236	6	-0.562	1.761	0.1221

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.926727		0.844	-0.54998	2.143604	
F-Test indicates equal variances (p = 0.04)	7.154821		13.77157			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.104947	0.130501	0.005685	0.018014	0.583158	1, 14

Notes:

L42M21 = WML-2 larvae cultured in 38VP-2 media; L21M21 = 38VP-2 larvae cultured in 38VP-2 media

Appendix C

Amphibian Study - WF Normal Metamorphs/Live Metamorph										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - total # normal metamorphs/# live metamorphs									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L41M41	1.0000	1.0000	1.0000	0.9706	1.0000	1.0000				
L30M41	0.8182	0.7778	1.0000	1.0000	0.8000	1.0000	0.8889	1.0000	0.7778	1.0000

Transform: Arcsin Square Root								1-Tailed		
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
L41M41	0.9951	0.0120	1.4314	1.3453	1.4823	3.758	6			
*L30M41	0.9063	0.1034	1.2462	1.0799	1.3931	10.772	10	3.192	1.761	0.1022

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.916856		0.844	-0.27848	-1.32681	
F-Test indicates equal variances (p = 0.06)	6.229155		13.77157			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.037921	0.038668	0.128598	0.012619	0.00652	1, 14

Notes:

L41M41 = WML-1 larvae cultured in WML-1 media; L30M41 = 38VP-1 larvae cultured in WML-1 media

Appendix C

Amphibian Study - WF Normal Metamorphs/Live Metamorph										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - total # normal metamorphs/# live metamorphs									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L42M42	1.0000	0.9412	1.0000	1.0000	1.0000	0.9091				
L21M42	1.0000	0.9000	0.3333	1.0000	0.8750	1.0000	0.8333	0.6667	0.9000	0.9333

Transform: Arcsin Square Root								Rank	1-Tailed
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	Sum	Critical
L42M42	0.9750	0.0400	1.3742	1.2645	1.4588	5.025	6		
*L21M42	0.8442	0.2056	1.1619	0.6155	1.3931	19.242	10	60.00	69.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution ($p \leq 0.01$)	0.801991	0.844	-2.09075	5.762263
F-Test indicates equal variances ($p = 0.02$)	10.48166	13.77157		
Hypothesis Test (1-tail, 0.05)				
Wilcoxon Two-Sample Test indicates significant differences				

Notes:

L42M42 = WML-2 larvae cultured in WML-2 media; L21M42 = 38VP-2 larvae cultured in WML-2 media

Appendix C

Amphibian Study - WF Metamorphs Weight/Live Metamorph							
Start Date:	Test ID:			Sample ID:		Crossover	
End Date:	Lab ID:			Sample Type:			
Sample Date:	Protocol:			Test Species:		Rana sylvatica	
Comments:	Wood frog - Crossover Study - average metamorphs weight for surviving metamorphs						
Conc-mg/Kg	1	2	3	4	5	6	7
L41M30	0.2380	0.2170	0.1770	0.3600	0.4170	0.4000	0.1170
L30M30	0.4930	0.4510	0.6990	0.7770	0.5980	0.6610	

Conc-mg/Kg	Mean	SD	Transform: Untransformed				N	t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%				
L41M30	0.2751	0.1171	0.2751	0.1170	0.4170	42.570	7			
L30M30	0.6132	0.1245	0.6132	0.4510	0.7770	20.300	6	-5.041	1.796	0.1204

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution ($p > 0.01$)	0.928907	0.814	-0.03846	-1.50742		
F-Test indicates equal variances ($p = 0.87$)	1.129295	11.46373				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.120418	0.437655	0.369148	0.014525	3.8E-04	1, 11

Notes:

L41M30 = WML-1 larvae cultured in 38VP-1 media; L30M30 = 38VP-1 larvae cultured in 38VP-1 media

Appendix C

Amphibian Study - WF Metamorphs Weight/Live Metamorph										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - average metamorphs weight for surviving metamorphs									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L42M21	0.2980	0.2710	0.3880	0.2510	0.3500	0.2340	0.2860	0.2310	0.3490	0.2050
L21M21	0.5710	0.3790	0.3280	0.4050	0.3400	0.3400				

Conc-mg/Kg	Mean	SD	Transform: Untransformed					t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%	N			
L42M21	0.2863	0.0600	0.2863	0.2050	0.3880	20.942	10			
L21M21	0.3938	0.0915	0.3938	0.3280	0.5710	23.234	6	-2.860	1.761	0.0662

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution ($p > 0.01$)	0.885408		0.844	1.231037	1.264462	
F-Test indicates equal variances ($p = 0.26$)	2.329156		7.471044			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.066222	0.231302	0.043363	0.005301	0.012597	1, 14

Notes:

L42M21 = WML-2 larvae cultured in 38VP-2 media; L21M21 = 38VP-2 larvae cultured in 38VP-2 media

Appendix C

Amphibian Study - WF Metamorphs Weight/Live Metamorph										
Start Date:	Test ID:			Sample ID:			Crossover			
End Date:	Lab ID:			Sample Type:						
Sample Date:	Protocol:			Test Species:			Rana sylvatica			
Comments:	Wood frog - Crossover Study - average metamorphs weight for surviving metamorphs									
Conc-mg/Kg	1	2	3	4	5	6	7	8	9	10
L41M41	0.2210	0.2570	0.3000	0.2420	0.3410	0.2980				
L30M41	0.2810	0.2230	0.3060	0.2740	0.2320	0.3460	0.2370	0.2840	0.2550	0.2140

Conc-mg/Kg	Mean	SD	Transform: Untransformed				N	t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%				
L41M41	0.2765	0.0443	0.2765	0.2210	0.3410	16.032	6			
L30M41	0.2652	0.0412	0.2652	0.2140	0.3460	15.536	10	0.517	1.761	0.0385

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.947855	0.844	0.455245	-0.63645		
F-Test indicates equal variances (p = 0.80)	1.157636	7.471044				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.038514	0.139291	0.000479	0.001793	0.613385	1, 14

Notes:

L41M41 = WML-1 larvae cultured in WML-1 media; L30M41 = 38VP-1 larvae cultured in WML-1 media

Phase I Spike Study

Raw Data:

Mortality/Metamorphosis

Larval Stage/Malformations

Larval Growth

Metamorph Weight/Abnormality

Hypothesis Testing Tables

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica MORTALITY/METAMORPH DATA
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

SPIKED METAMORPH DATA

DATE	DAY	Replicate 1			Replicate 2			Replicate 3			Replicate 4			COMBINED REPLICATE METAMORPHOSIS STATISTICS		
		DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	DAILY NUMBER	CUMUL. METAM.	% CUMUL. METAM.	MEAN OF % VAR (S2)	SEM	CV (%)
4/25/2000	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
4/26/2000	1	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
4/27/2000	2	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
4/28/2000	3	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/1/2000	6	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/2/2000	7	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/3/2000	8	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/4/2000	9	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/5/2000	10	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/6/2000	11	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/8/2000	13	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/10/2000	15	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/11/2000	16	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/12/2000	17	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/15/2000	20	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/17/2000	22	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/18/2000	23	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/19/2000	24	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/22/2000	27	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/23/2000	28	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/24/2000	29	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/26/2000	31	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
5/30/2000	35	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/1/2000	37	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/5/2000	41	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/6/2000	42	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/8/2000	44	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/19/2000	55	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/21/2000	57	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0.00	0.000	na
6/22/2000	58	1	1	4.00	2	3	12.00	1	1	4.00	2	3	12.00	12.00	202.67	7.118
6/23/2000	59	2	3	12.00	4	7	28.00	0	1	4.00	1	9	36.00	18.00	272.00	8.246
6/26/2000	62	2	5	20.00	4	13	52.00	2	2	8.00	0	9	36.00	23.00	228.00	7.550
6/27/2000	63	2	7	28.00	2	15	60.00	5	7	28.00	0	11	44.00	36.00	213.33	7.303
6/29/2000	65	4	11	44.00	0	15	60.00	4	11	44.00	0	11	44.00	40.00	234.67	7.659
6/29/2000	66	1	12	48.00	0	16	76.00	0	11	44.00	0	11	44.00	48.00	64.00	4.000
7/3/2000	69	2	14	56.00	0	18	76.00	2	13	52.00	0	11	44.00	53.00	238.67	7.724
7/5/2000	71	0	14	56.00	0	18	76.00	1	14	56.00	0	12	48.00	58.00	164.67	6.218
7/6/2000	72	1	15	60.00	1	20	80.00	1	15	60.00	0	14	56.00	61.00	100.00	5.000
7/10/2000	76	1	16	64.00	0	20	80.00	1	16	64.00	0	14	56.00	66.00	101.33	5.033
7/11/2000	77	0	16	64.00	0	20	80.00	0	17	68.00	0	14	56.00	67.00	100.00	5.000
7/12/2000	78	0	16	64.00	0	20	80.00	0	17	68.00	0	14	56.00	67.00	100.00	5.000
7/13/2000	79	0	16	64.00	0	20	80.00	0	17	68.00	0	14	56.00	67.00	100.00	5.000
7/17/2000	83	0	16	64.00	0	20	80.00	0	17	68.00	0	14	56.00	67.00	100.00	5.000
7/19/2000	85	0	16	64.00	0	21	84.00	0	17	68.00	0	14	56.00	68.00	138.67	5.888
7/24/2000	90	0	16	64.00	0	21	84.00	1	18	72.00	0	14	56.00	69.00	142.67	5.972

COMBINED DATA SUMMARY FOR FIGURES

DAY	WML-3 Spiked Composite (N=4)			Data From Developmental Study WML-3 Unspiked Reference (N=4)		
	STAGE	% MORT	SEM	STAGE	% MORT	SEM
0	20	0.00	0.00	0	17	0.00
31	24	6.00	1.16	11	24	1.33
59	38	26.00	6.83	47	34	39.83
79	40	31.00	5.87	74	40	51.83
90	-	31.00	5.87	105	44	70.83
				126	44	73.83
				132	-	74.57
						3.00

VERNAL POOL SPIKE STUDY 2000
PHASE I *RANA sylvatica* LARVAL STAGE/MALFORMATION DATA
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

STAGE 20 4/25/2000, DAY 0

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)							COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	EYE	MOUTH	MEAN of %	
Replicate 1	25	0	0.00								0.00	
Replicate 2	25	0	0.00								0.0	
Replicate 3	25	0	0.00								0.0	
Replicate 4	25	0	0.00								na	
TOTAL NO.	100	0	0.00	0	0	0	0	0	0	0		
AVERAGE % MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

STAGE 24 5/26/2000, DAY 31

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)							COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	EYE	MOUTH	MEAN of %	
Replicate 1	24	2	8.33					2	2	2	5.34	
Replicate 2	23	3	13.04					3	3	3	41.8	
Replicate 3	24	0	0.00								3.2	
Replicate 4	23	0	0.00								120.9	
TOTAL NO.	94	5	5.34	0	0	0	0	5	5	5		
AVERAGE % MALFORMED			5.34	0.00	0.00	0.00	0.00	5.34	5.34	5.34		

STAGE 38 6/23/2000, DAY 59

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)							COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	EYE	MOUTH	MEAN of %	
Replicate 1	17	4	23.53		4	4	3	4		4	22.90	
Replicate 2	13	3	23.08		2	2	2	2		3	4.4	
Replicate 3	16	4	25.00		4	4	4	3		4	1.1	
Replicate 4	5	1	20.00		1	1	1	1		1	9.2	
TOTAL NO.	51	12	22.90	0	11	11	10	10	0	12		
AVERAGE % MALFORMED			22.90	0.00	20.98	20.98	19.51	19.42	0.00	22.90		

STAGE 40 7/13/2000, DAY 79

SAMPLE ID	BASED ON TOTAL SURVIVING			TYPE OF MALFORMATION (DELTS OBSERVED)							COMBINED STATISTICS	
	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	EDEMA	TAIL	NOTOCHORD	FIN	FACE	EYE	MOUTH	MEAN of %	
Replicate 2	1	0	0.00								0.00	
Replicate 3	1	0	0.00								0.0	
TOTAL NO.	2	0	0.00	0	0	0	0	0	0	0	0.0	
AVERAGE % MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	

DATA SUMMARY

WML-3 Spiked Composite (N=4)			
DAY	STAGE	% MAL	SEM
0	20	0.00	0.0
31	24	5.34	3.2
59	38	22.90	1.1
79	(dropped due to low total larval count, 2)		

WML-3 Unspiked Reference (N=6)			
DAY	STAGE	% MAL	SEM
0	17	-	-
11	24	0.50	0.3
47	34	0.40	0.4
74	40	1.67	1.7

Comments: 1. Percent malformations are based on total number of malformed larvae per total number of surviving larvae on a given study day.

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)
DATA SUMMARY

DAY	STAGE ON DAY SCORED	WML-3 Ref	Mean Length (cm)				Spiked Growth Statistics			
			WML-3 Spiked Replicates				Mean	Var(S ²)	SEM	CV
			Tub 41	Tub 42	Tub 43	Tub 44				
0	20	na	1.545	1.458	1.582	1.518	1.526	0.003	0.026	3.409
6		na	1.930	2.142	1.998	1.827	1.974	0.017	0.066	6.701
11	24	2.202	na	na	na	na	na	na	na	na
11		na	2.373	2.598	2.355	2.227	2.388	0.024	0.077	6.463
16		na	2.479	2.861	2.606	2.497	2.611	0.031	0.088	6.751
21		na	2.530	3.001	2.812	2.854	2.799	0.039	0.099	7.042
31	24	na	2.636	3.137	2.927	3.086	2.946	0.051	0.113	7.653
41		na	3.070	3.286	3.191	3.465	3.253	0.028	0.083	5.127
47	34	3.105	na	na	na	na	na	na	na	na
55		na	3.948	4.041	3.811	3.950	3.938	0.009	0.048	2.414
59	38	na	4.173	4.113	3.897	4.111	4.073	0.015	0.061	2.976
69		na	3.375	4.638	3.935	2.705	3.663	0.675	0.411	22.432
74	40	3.849	na	na	na	na	na	na	na	na
79	40	na	na	4.659	4.156	na	4.408	0.127	0.252	8.077
105	44	4.029	na	na	na	na	na	na	na	na

DAY	STAGE ON DAY SCORED	WML-3 Ref	Standard Error of Mean (SEM)			
			WML-3 Spiked Replicates			
			Tub 41	Tub 42	Tub 43	Tub 44
0	20	na	0.035	0.035	0.030	0.038
6		na	0.054	0.057	0.047	0.046
11	24	0.030	na	na	na	na
11		na	0.068	0.076	0.066	0.044
16		na	0.073	0.075	0.069	0.062
21		na	0.056	0.111	0.079	0.065
31	24	na	0.042	0.081	0.067	0.071
41		na	0.094	0.095	0.098	0.109
47	34	0.780	na	na	na	na
55		na	0.092	0.140	0.126	0.176
59	38	na	0.180	0.271	0.152	0.191
69		na	0.638	0.190	0.334	0.969
74	40	0.130	na	na	na	na
79	40	na	na	na	na	na
105	44	0.163	na	na	na	na

Comments: 1. Study Days from the growth data summarized for graphical presentation match the study days on which the corresponding larvae were staged and observed for malformations.
 2. For the purpose of graphical presentation, stage values presented represent the greatest stage attained within a range of stages identified for a given replicate on a given study day.

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
04/25/00	1.540	1.394	1.569	1.489
	1.613	1.296	1.640	1.421
	1.680	1.401	1.688	1.545
	1.611	1.697	1.433	1.425
STUDY DAY	1.720	1.460	1.607	1.578
0	1.548	1.478	1.857	1.856
	1.499	1.425	1.672	1.547
STAGE	1.678	1.554	1.444	1.575
20	1.357	1.660	1.520	1.552
	1.194	1.769	1.792	1.524
	1.197	1.745	1.363	1.679
	1.903	1.765	1.584	1.514
	1.715	1.342	1.418	1.489
	1.695	1.509	1.498	1.742
	1.385	1.452	1.480	1.314
	1.339	1.319	1.535	1.681
	1.533	1.505	1.311	1.361
	1.714	1.273	1.587	1.715
	1.602	1.488	1.510	1.889
	1.393	1.164	1.625	1.128
	1.485	1.437	1.761	1.723
	1.533	1.403	1.829	1.308
	1.483	1.262	1.790	1.387
	1.759	1.516	1.380	1.235
	1.441	1.144	1.656	1.273

Individual Replicate Statistics

N	25	25	25	25
Mean	1.545	1.458	1.582	1.518
Var. (S ²)	0.030	0.030	0.023	0.037
SEM	0.035	0.035	0.030	0.038

Combined Replicate Statistics

N	4
Mean	1.526
Var. (S ²)	0.003
SEM	0.026

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
05/01/00	1.690	2.129	2.096	1.897
	1.503	2.353	1.776	1.655
	1.921	2.139	2.150	1.813
	2.237	1.860	1.799	1.621
STUDY DAY	1.675	1.700	1.845	1.835
6	1.751	2.430	1.823	1.934
	1.585	2.733	2.509	1.792
STAGE	1.955	1.807	2.032	1.518
	1.743	2.452	1.853	1.843
	2.716	2.459	2.044	1.899
	1.814	1.957	1.823	2.143
	1.916	2.006	2.168	1.804
	1.743	1.772	2.086	2.458
	2.031	1.709	2.221	1.695
	1.725	2.091	1.753	1.744
	2.150	2.285	2.287	1.739
	2.064	1.945	1.909	1.702
	1.900	2.348	1.832	1.836
	1.926	2.193	1.604	1.635
	2.130	2.449	2.057	1.730
	2.105	2.149	1.725	1.843
	2.346	2.235	1.894	1.566
	1.827	2.071	2.355	2.316
	1.859		2.307	

Individual Replicate Statistics

N	24	23	24	23
Mean	1.930	2.142	1.998	1.827
Var. (S ²)	0.071	0.075	0.053	0.050
SEM	0.054	0.057	0.047	0.046

Combined Replicate Statistics

N	4
Mean	1.974
Var. (S ²)	0.017
SEM	0.066

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
05/06/00	2.143	2.355	1.846	1.832
	2.139	2.292	2.643	1.990
	2.461	2.374	2.002	2.059
	2.400	3.649	2.615	2.490
STUDY DAY	2.179	3.014	2.511	2.710
11	2.045	2.586	2.652	2.182
	2.850	2.374	2.308	2.299
STAGE	2.511	2.860	2.524	2.454
	2.298	2.383	2.246	2.272
	2.400	2.428	2.085	2.280
	2.392	2.951	2.477	2.223
	2.376	2.542	2.555	2.232
	2.417	2.700	2.759	2.367
	2.456	3.165	2.484	1.977
	1.891	2.824	2.318	2.163
	1.725	2.490	2.699	1.918
	2.408	2.407	1.919	2.335
	1.945	1.936	1.697	2.333
	2.417	2.648	2.031	1.920
	2.835	2.752	2.094	2.140
	3.320	2.184	2.236	2.178
	2.557	2.492	2.235	2.441
	2.285	2.358	2.648	2.428
	2.499		2.939	

Individual Replicate Statistics

N	24	23	24	23
Mean	2.373	2.598	2.355	2.227
Var. (S ²)	0.110	0.133	0.103	0.046
SEM	0.068	0.076	0.066	0.044

Combined Replicate Statistics

N	4
Mean	2.388
Var. (S ²)	0.024
SEM	0.077

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
05/11/00	2.421	2.927	2.001	2.068
	1.979	2.765	2.395	2.895
	2.531	2.796	2.031	2.925
	2.555	3.060	3.153	2.631
STUDY DAY	2.539	3.228	2.906	2.696
16	3.363	3.588	2.858	2.560
	1.948	2.818	2.628	2.537
STAGE	2.456	2.981	2.518	2.583
	2.334	2.324	2.610	1.909
	2.630	2.325	2.662	2.526
	2.521	3.050	2.888	2.828
	3.015	2.776	2.697	2.991
	2.824	3.351	3.056	2.155
	2.843	3.328	2.938	2.488
	3.115	3.241	2.734	2.286
	2.447	2.302	2.122	2.618
	2.571	2.657	2.450	2.254
	2.205	3.016	2.825	2.042
	2.011	2.684	2.828	2.395
	2.030	2.680	2.094	2.483
	2.357	2.875	2.912	2.774
	2.293	2.861	2.119	2.592
	2.252	2.177	2.444	2.185
	2.262		2.666	

Individual Replicate Statistics

N	24	23	24	23
Mean	2.479	2.861	2.606	2.497
Var. (S ²)	0.129	0.130	0.113	0.088
SEM	0.073	0.075	0.069	0.062

Combined Replicate Statistics

N	4
Mean	2.611
Var. (S ²)	0.031
SEM	0.088

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
05/16/00	2.685	3.227	2.076	2.762
	2.443	3.827	2.205	2.369
	2.023	2.960	2.517	2.318
	2.267	4.183	2.305	2.626
STUDY DAY	2.105	2.690	3.045	3.149
21	2.286	4.013	2.927	3.033
	2.432	2.914	2.802	2.893
STAGE	2.800	3.175	3.454	2.488
	3.047	3.184	2.715	2.663
	2.257	2.203	3.236	2.683
	2.330	2.783	2.728	3.346
	2.357	3.407	3.179	2.668
	2.608	3.414	2.560	3.283
	3.011	2.617	3.540	3.346
	2.219	2.444	2.497	2.639
	2.550	2.680	2.863	3.004
	2.492	3.229	3.412	2.702
	2.691	3.068	3.004	2.680
	2.501	2.345	2.715	2.974
	2.860	2.224	2.769	3.121
	2.643	2.551	2.961	2.792
	2.853	2.924	2.823	2.729
	2.502	2.972	2.346	3.386
	2.759		2.802	

Individual Replicate Statistics

N	24	23	24	23
Mean	2.530	3.001	2.812	2.854
Var. (S ²)	0.075	0.282	0.148	0.096
SEM	0.056	0.111	0.079	0.065

Combined Replicate Statistics

N	4
Mean	2.799
Var. (S ²)	0.039
SEM	0.099

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
05/26/00	2.499	2.954	2.335	3.743
	2.428	3.399	2.725	2.952
	2.687	3.659	3.063	3.297
	2.592	3.548	3.078	3.103
STUDY DAY	2.781	2.641	3.047	3.714
31	2.965	3.665	2.505	3.411
	2.803	2.959	2.601	3.622
STAGE	2.645	3.220	2.997	2.964
24	2.365	3.661	2.899	2.916
	2.629	2.525	3.277	2.871
	2.835	3.558	2.721	3.032
	2.614	3.395	3.182	2.822
	2.752	3.144	2.462	2.764
	2.954	2.584	2.584	3.131
	2.654	2.962	2.848	3.158
	2.618	3.669	2.946	2.981
	2.131	2.944	3.181	2.764
	2.348	2.696	3.019	2.638
	2.625	2.595	3.052	2.332
	2.335	3.179	3.684	3.266
	2.926	2.825	2.710	3.031
	2.677	3.416	3.606	3.286
	2.661	2.942	2.925	3.186
	2.738		2.790	

Individual Replicate Statistics

N	24	23	24	23
Mean	2.636	3.137	2.927	3.086
Var. (S ²)	0.043	0.153	0.109	0.115
SEM	0.042	0.081	0.067	0.071

Combined Replicate Statistics

N	4
Mean	2.946
Var. (S ²)	0.051
SEM	0.113

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
06/05/00	3.037	3.786	4.070	4.300
	2.807	3.006	3.205	4.342
	2.988	3.254	2.195	2.288
	3.813	3.543	2.715	3.720
STUDY DAY	4.122	3.816	3.629	3.489
41	3.027	3.449	3.110	3.317
	2.216	4.072	3.276	3.360
STAGE	3.152	4.064	3.154	3.339
	2.703	3.384	4.032	2.929
	3.403	2.724	2.879	3.136
	2.976	2.746	2.437	3.991
	2.871	2.729	3.398	3.907
	3.125	3.466	3.234	3.857
	2.965	3.264	4.162	3.603
	2.954	3.560	3.185	3.283
	3.092	3.341	3.034	3.038
	2.462	2.818	3.278	2.667
	3.097	3.432	3.148	3.761
	2.221	2.543	3.231	3.449
	3.489	2.843	2.788	3.674
	3.524	3.078	2.875	3.311
	3.744	2.791	3.078	
	3.165	3.861	3.274	
	2.720			

Individual Replicate Statistics

N	24	23	23	21
Mean	3.070	3.286	3.191	3.465
Var. (S ²)	0.211	0.208	0.222	0.251
SEM	0.094	0.095	0.098	0.109

Combined Replicate Statistics

N	4
Mean	3.253
Var. (S ²)	0.028
SEM	0.083

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
06/19/00	4.216	3.727	3.633	3.589
	3.855	3.602	3.502	4.138
	4.283	5.144	3.988	3.972
	3.511	3.745	3.910	3.645
STUDY DAY	3.577	4.825	4.298	4.515
55	3.457	3.674	3.675	4.367
	4.472	4.362	4.319	4.893
STAGE	4.309	4.285	4.403	3.550
	4.583	4.245	4.724	2.821
	3.651	3.571	4.108	3.573
	4.002	3.701	2.062	4.390
	3.472	4.293	4.080	
	3.476	4.427	4.215	
	4.860	2.521	4.291	
	4.640	4.885	4.118	
	4.269	4.884	3.832	
	3.652	3.756	3.515	
	4.026	4.474	3.000	
	4.151	3.027	3.133	
	3.659	3.958	4.264	
	3.723	3.761	3.269	
	3.408		3.497	
	3.554			

Individual Replicate Statistics

N	23	21	22	11
Mean	3.948	4.041	3.811	3.950
Var. (S^2)	0.193	0.411	0.351	0.341
SEM	0.092	0.140	0.126	0.176

Combined Replicate Statistics

N	4
Mean	3.938
Var. (S^2)	0.009
SEM	0.048

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
06/23/00	4.789	4.004	4.450	4.652
	4.094	6.193	3.685	3.929
	4.808	4.913	4.521	3.703
	4.301	2.499	5.323	3.789
STUDY DAY	5.001	3.471	3.968	4.480
59	4.739	3.854	2.836	
	4.440	4.805	3.436	
STAGE	4.537	3.518	4.141	
38	4.051	4.187	3.537	
	3.690	4.393	4.272	
	3.851	2.643	3.820	
	4.382	4.630	3.549	
	2.993	4.360	3.890	
	4.756		3.916	
	3.852		4.061	
	4.567		2.942	
	2.082			

Individual Replicate Statistics

N	17	13	16	5
Mean	4.173	4.113	3.897	4.111
Var. (S ²)	0.548	0.956	0.367	0.183
SEM	0.180	0.271	0.152	0.191

Combined Replicate Statistics

N	4
Mean	4.073
Var. (S ²)	0.015
SEM	0.061

VERNAL POOL SPIKE STUDY 2000
PHASE I RANA sylvatica DEVELOPMENTAL GROWTH DATA (Length in cm)
SITE 43 (WML-3) (Spiked with 30.0 mg/kg Aroclor 1260)

DATE	Tub 41	Tub 42	Tub 43	Tub 44
07/03/00	3.740	4.829	4.333	1.736
	2.133	4.448	4.282	3.674
	4.253		4.457	
			2.639	
			3.963	
STUDY DAY				
69				
STAGE				

Individual Replicate Statistics

N	3	2	5	2
Mean	3.375	4.638	3.935	2.705
Var. (S ²)	1.223	0.072	0.558	1.877
SEM	0.638	0.190	0.334	0.969

Combined Replicate Statistics

N	4
Mean	3.663
Var. (S ²)	0.675
SEM	0.411

**VERNAL POOL SPIKE STUDY 2000
PHASE I METAMORPH WEIGHT DATA
COMBINED DATA SUMMARY**

WML-3 SPIKED WITH 30.0 mg/kg AROCLOR 1260

WEIGHT					
Replicate Tub Number	Number Metamorphs Weighed	Mean Weight (g)	Var (S ²)	SEM	CV (%)
41	14	0.435	0.030	0.047	40.101
42	21	0.565	0.033	0.040	32.246
43	17	0.414	0.036	0.046	45.663
44	14	0.352	0.038	0.052	55.389
Average for Treatment	16.5	0.442	0.008	0.045	20.319

ABNORMALITY						
Replicate Tub Number	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S ²)	SEM	CV (%)
41	14	1	7.1			
42	21	3	14.3			
43	17	3	17.6			
44	14	1	7.1			
Average for Treatment	16.5	2.0	11.6	27.835	2.638	45.660

WML-3 (0.11 mg/kg SEDIMENT PCB)

WEIGHT					
Egg Mass ID	Number Metamorphs Weighed	Mean Weight (g)	Var (S ²)	SEM	CV (%)
H9-TAWLRS43-0-EM01	20	0.348	0.023	0.032	43.679
H9-TAWLRS43-0-EM02	32	0.264	0.018	0.023	50.924
H9-TAWLRS43-0-EM03	29	0.359	0.019	0.025	38.153
H9-TAWLRS43-0-EM04	24	0.313	0.016	0.028	40.975
H9-TAWLRS43-0-EM05	14	0.422	0.027	0.040	39.066
H9-TAWLRS43-1-EM05	24	0.338	0.019	0.029	40.641
Average for Treatment	23.8	0.341	0.003	0.021	15.334

ABNORMALITY						
Egg Mass ID	Number Metamorphs Weighed	Number Abnormal	% Abnormal	Var (S ²)	SEM	CV (%)
H9-TAWLRS43-0-EM01	20	0	0.0			
H9-TAWLRS43-0-EM02	32	0	0.0			
H9-TAWLRS43-0-EM03	29	1	3.4			
H9-TAWLRS43-0-EM04	24	0	0.0			
H9-TAWLRS43-0-EM05	14	0	0.0			
H9-TAWLRS43-1-EM05	24	0	0.0			
Average for Treatment	23.8	0.2	0.6	1.982	0.575	244.949

VERNAL POOL SPIKE STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), SPIKED WITH 30.0 mg/kg AROCLOR 1260

Egg Mass ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43 Composite	41	06/22/00	0.496	
H9-TAWLRS43 Composite	41	06/23/00	0.365	
H9-TAWLRS43 Composite	41	06/23/00	0.346	
H9-TAWLRS43 Composite	41	06/26/00	0.427	
H9-TAWLRS43 Composite	41	06/26/00		too decomposed or eaten to weigh
H9-TAWLRS43 Composite	41	06/27/00	0.386	
H9-TAWLRS43 Composite	41	06/27/00	0.343	facial, eye, mouth
H9-TAWLRS43 Composite	41	06/29/00	0.565	
H9-TAWLRS43 Composite	41	06/29/00	0.411	
H9-TAWLRS43 Composite	41	06/29/00	0.595	
H9-TAWLRS43 Composite	41	06/29/00	0.533	
H9-TAWLRS43 Composite	41	06/30/00	0.621	
H9-TAWLRS43 Composite	41	07/03/00	0.174	
H9-TAWLRS43 Composite	41	07/03/00	0.086	
H9-TAWLRS43 Composite	41	07/06/00	0.735	
H9-TAWLRS43 Composite	41	07/10/00		too decomposed or eaten to weigh
H9-TAWLRS43 Composite	42	06/19/00	0.218	
H9-TAWLRS43 Composite	42	06/21/00	0.612	
H9-TAWLRS43 Composite	42	06/21/00	0.443	
H9-TAWLRS43 Composite	42	06/22/00	0.324	
H9-TAWLRS43 Composite	42	06/22/00	0.843	
H9-TAWLRS43 Composite	42	06/22/00	0.857	
H9-TAWLRS43 Composite	42	06/22/00	0.453	edema, facial, mouth
H9-TAWLRS43 Composite	42	06/23/00	0.559	
H9-TAWLRS43 Composite	42	06/23/00	0.662	
H9-TAWLRS43 Composite	42	06/26/00	0.582	
H9-TAWLRS43 Composite	42	06/26/00	0.607	
H9-TAWLRS43 Composite	42	06/26/00	0.472	visceral edema, hindlimb
H9-TAWLRS43 Composite	42	06/26/00	0.570	
H9-TAWLRS43 Composite	42	06/27/00	0.388	
H9-TAWLRS43 Composite	42	06/27/00	0.479	
H9-TAWLRS43 Composite	42	06/30/00	0.467	eye
H9-TAWLRS43 Composite	42	06/30/00	0.414	
H9-TAWLRS43 Composite	42	06/30/00	1.060	
H9-TAWLRS43 Composite	42	06/30/00	0.646	
H9-TAWLRS43 Composite	42	07/06/00	0.442	
H9-TAWLRS43 Composite	42	07/19/00	0.777	
H9-TAWLRS43 Composite	43	06/19/00	0.493	
H9-TAWLRS43 Composite	43	06/23/00	0.495	
H9-TAWLRS43 Composite	43	06/26/00	0.466	
H9-TAWLRS43 Composite	43	06/26/00	0.310	
H9-TAWLRS43 Composite	43	06/26/00	0.233	
H9-TAWLRS43 Composite	43	06/26/00	0.280	
H9-TAWLRS43 Composite	43	06/26/00	0.528	
H9-TAWLRS43 Composite	43	06/29/00	0.328	
H9-TAWLRS43 Composite	43	06/29/00	0.537	
H9-TAWLRS43 Composite	43	06/29/00	0.433	
H9-TAWLRS43 Composite	43	06/29/00	0.278	facial, mouth, spine flexure
H9-TAWLRS43 Composite	43	07/03/00	0.144	eye (lens)

VERNAL POOL SPIKE STUDY 2000
PHASE I METAMORPH WEIGHT/ABNORMALITY DATA
SITE 43 (WML-3), SPIKED WITH 30.0 mg/kg AROCLOR 1260

Egg Mass ID Number	Replicate Tub No.	Date Metamorphosed	Metamorph Weight (g)	Metamorph Abnormalities
H9-TAWLRS43 Composite	43	07/03/00	0.406	
H9-TAWLRS43 Composite	43	07/05/00	0.827	
H9-TAWLRS43 Composite	43	07/06/00	0.338	facial
H9-TAWLRS43 Composite	43	07/10/00	0.359	
H9-TAWLRS43 Composite	43	07/11/00	0.589	
H9-TAWLRS43 Composite	43	07/24/00		too decomposed or eaten to weigh
H9-TAWLRS43 Composite	44	06/19/00	0.173	
H9-TAWLRS43 Composite	44	06/19/00	0.284	facial
H9-TAWLRS43 Composite	44	06/19/00	0.547	
H9-TAWLRS43 Composite	44	06/19/00	0.425	
H9-TAWLRS43 Composite	44	06/19/00	0.196	
H9-TAWLRS43 Composite	44	06/19/00	0.443	
H9-TAWLRS43 Composite	44	06/21/00	0.499	
H9-TAWLRS43 Composite	44	06/21/00	0.357	
H9-TAWLRS43 Composite	44	06/22/00	0.440	
H9-TAWLRS43 Composite	44	06/26/00	0.267	
H9-TAWLRS43 Composite	44	06/26/00	0.204	
H9-TAWLRS43 Composite	44	07/03/00	0.467	
H9-TAWLRS43 Composite	44	07/05/00	0.296	
H9-TAWLRS43 Composite	44	07/05/00	0.331	

Appendix C

Amphibian Study - WF Survival at FIN						
Start Date:	Test ID:		Sample ID:		Spiked	
End Date:	Lab ID:		Sample Type:			
Sample Date:	Protocol:		Test Species:		Rana sylvatica	
Comments:	Wood frog - Spiked Study - Survival until all animals have died or metamorphed					
Conc	1	2	3	4	5	6
unspiked	0.2000	0.3200	0.3300	0.2400	0.1400	0.2900
spiked	0.6400	0.8400	0.7200	0.5600		

Conc	Mean	SD	Transform: Arcsin Square Root				N	t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%				
unspiked	0.2533	0.0742	0.5235	0.3835	0.6119	16.919	6	-6.644	1.860	0.1295
spiked	0.6900	0.1194	0.9863	0.8455	1.1593	13.595	4			

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.959499	0.781	0.064701	-0.67475		
F-Test indicates equal variances (p = 0.39)	2.291841	16.53007				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.102571	0.410424	0.514106	0.011646	1.6E-04	1, 8

Notes:

Controls based on 6 eggmasses; assume that spiked replicates were seeded with equal proportions of larvae from all 6 egg masses from WML-3. Based on the summary statistics, mean survival in the unspiked group is lower than the spiked group therefore no hypothesis test is needed since a decrease in survival in the spiked group is of interest.

Appendix C

Amphibian Study - WF larvae length on Day 11						
Start Date:	Test ID:			Sample ID:		Spiked
End Date:	Lab ID:			Sample Type:		
Sample Date:	Protocol:			Test Species:		<i>Rana sylvatica</i>
Comments:	Wood frog - Spiked Study - Average larvae length on Day 11					
Conc	1	2	3	4	5	6
unspiked	2.1430	2.0750	2.2470	2.2950	2.2140	2.2350
spiked	2.3730	2.5980	2.3550	2.2270		

Conc	Mean	SD	Transform: Untransformed					t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%	N			
unspiked	2.2015	0.0794	2.2015	2.0750	2.2950	3.606	6	-2.552	1.860	0.1361
spiked	2.3883	0.1542	2.3883	2.2270	2.5980	6.457	4			

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.976196	0.781	0.423106	0.612076		
F-Test indicates equal variances (p = 0.19)	3.772469	16.53007				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.1361	0.061822	0.083701	0.012856	0.034091	1, 8

Notes:

Controls based on 6 eggmasses; assume that spiked replicates were seeded with equal proportions of larvae from all 6 egg masses from WML-3

Based on the summary statistics, mean length in the unspiked group is lower than the spiked group therefore no hypothesis test is needed since a decrease in length in the spiked group is of interest

Day 11 chosen since it is the only common day that lengths were measured for the two groups

Appendix C

Amphibian Study - WF # normal at metamorphosis						
Start Date:	Test ID:			Sample ID:		Spiked
End Date:	Lab ID:			Sample Type:		
Sample Date:	Protocol:			Test Species:		<i>Rana sylvatica</i>
Comments:	Wood frog - Spiked Study - # normal/ # live metamorphs					
Conc-mg/Kg	1	2	3	4	5	6
unspiked	1.0000	1.0000	0.9655	1.0000	1.0000	1.0000
spiked	0.9286	0.8571	0.8235	0.9286		

Transform: Arcsin Square Root								1-Tailed		MSD
Conc-mg/Kg	Mean	SD	Mean	Min	Max	CV%	N	t-Stat	Critical	
unspiked	0.9943	0.0141	1.4498	1.3840	1.4823	2.455	6	5.856	1.860	0.0697
*spiked	0.8845	0.0528	1.2302	1.1373	1.3002	6.746	4			

Auxiliary Tests	Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.942809	0.781	-0.38953	-0.75369		
F-Test indicates equal variances (p = 0.10)	5.433797	16.53007				
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates significant differences	0.021365	0.021681	0.115724	0.003375	3.8E-04	1, 8

Appendix C

Amphibian Study - WF weight at metamorphosis						
Start Date:	Test ID:			Sample ID:		Spiked
End Date:	Lab ID:			Sample Type:		
Sample Date:	Protocol:			Test Species:		<i>Rana sylvatica</i>
Comments:	Wood frog - Spiked Study - average weight of live metamorphs on metamorphosis day					
Conc	1	2	3	4	5	6
unspiked	0.3480	0.2640	0.3590	0.3130	0.4220	0.3380
spiked	0.4350	0.5650	0.4140	0.3520		

Conc	Mean	SD	Transform: Untransformed				N	t-Stat	1-Tailed Critical	MSD
			Mean	Min	Max	CV%				
unspiked	0.3407	0.0523	0.3407	0.2640	0.4220	15.340	6			
spiked	0.4415	0.0896	0.4415	0.3520	0.5650	20.285	4	-2.275	1.860	0.0824

Auxiliary Tests	Statistic		Critical	Skew	Kurt	
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.942128		0.781	0.623786	0.338209	
F-Test indicates equal variances (p = 0.28)	2.936704		16.53007			
Hypothesis Test (1-tail, 0.05)	MSDu	MSDp	MSB	MSE	F-Prob	df
Homoscedastic t Test indicates no significant differences	0.082418	0.241931	0.024402	0.004715	0.052476	1, 8

Notes:

Controls based on 6 eggmasses; assume that spiked replicates were seeded with equal proportions of larvae from all 6 egg masses from WML-3

Based on the summary statistics, mean weight in the unspiked group is lower than the spiked group therefore no hypothesis test is needed since a decrease in weight in the spiked group is of interest

Appendix D

Phase II – Specimens Inventory List

Growth Data

Larval Malformation Data

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) 14.5 mg/kg SEDIMENT PCB

0-TP08 EVENT 1	1-TP08 EVENT 1	0-TP09 EVENT 2	0-TP10 EVENT 3	0-TP11 EVENT 4	0-TP12 EVENT 4
1.266	1.189	2.424	4.426	5.497	2.522
1.144	0.989	3.245	4.271		2.797
1.039	1.193	2.792	4.624		2.254
0.906	1.163	3.033			2.376
1.152	1.193	2.411			2.489
0.907	1.098	2.532			3.007
1.030	1.178	2.282			5.318
1.225	1.167	2.449			5.418
1.244	1.238	3.173			2.724
1.153	1.037				5.593
1.264	1.164				
1.184	1.066				
1.158	1.129				
1.128	1.026				
0.975	1.169				
1.143	1.192				
1.111	0.923				
1.222	0.962				
1.052	1.239				
1.021	0.996				
1.268	1.153				
0.817	1.021				
0.864	1.084				
1.019	1.029				
1.065	0.878				
1.046	1.248				
0.902	1.134				
1.227	1.266				
1.005	1.084				
0.924	1.233				
1.006	1.102				
1.175	1.082				
1.193	1.037				
1.123	0.979				
1.110	1.029				
1.064	1.205				
1.039	1.150				
1.067	1.083				
1.104	1.169				
1.182	1.082				
1.164	1.179				
0.984	1.070				
1.053	0.942				
1.318	1.015				
0.977	1.083				
0.961	1.242				
0.906	1.182				
1.134	0.956				

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 20 (8-VP-1) 14.5 mg/kg SEDIMENT PCB

	0-TP08 EVENT 1	1-TP08 EVENT 1	0-TP09 EVENT 2	0-TP10 EVENT 3	0-TP11 EVENT 4	0-TP12 EVENT 4
	1.010	0.901				
	1.089	0.946				
	1.144	1.124				
	0.962	1.233				
	1.329	1.070				
	1.166	1.212				
	1.163					
	0.947					
	0.913					
	0.915					
	1.158					
	0.981					
	1.042					

Individual Growth Statistics Per Sample:

	N	61	54	9	3	1	10
Mean		1.079	1.102	2.704	4.440	5.497	3.450
Var. (S²)		0.014	0.010	0.133	0.031	na	1.942
SEM		0.015	0.014	0.122	0.102	na	0.441

Combined Growth Statistics Per Event:

	N	2	9	3	11
Mean		1.091	2.704	4.440	3.636
Var. (S²)		0.000	0.133	0.031	2.128
SEM		0.011	0.122	0.102	0.440

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) 62.0.0 mg/kg SEDIMENT PCB

0-TP12 EVENT 1	0-TP13 EVENT 2	1-TP13 EVENT 2	0-TP14 EVENT 3	0-TP15 EVENT 4
1.315	2.015	1.952	3.176	3.525
1.251	1.882	2.135	2.612	2.437
1.346	1.540	1.880	3.493	2.805
1.262	2.084	2.003	3.899	3.956
1.227	1.389	1.280	3.183	3.879
1.365	1.633	1.992	3.698	3.985
1.121	2.125	2.065	3.256	4.176
1.176	1.558	2.006	3.028	4.288
1.248	1.745	1.743	3.717	3.939
1.256	1.702	1.998	3.601	4.080
1.210	2.049	1.532	2.326	4.065
1.167	1.762	2.064	3.593	3.763
1.134	1.725	1.986	3.777	4.078
1.264	2.135	2.050	3.399	2.508
1.389	1.975	1.417	3.383	4.739
1.158	1.608	2.070	2.520	3.673
1.200	1.687	1.617	3.711	3.956
1.182	1.639	1.392	3.048	3.140
1.222	1.823	2.048	3.465	3.896
1.068	1.803	1.563	4.098	3.952
1.242	2.117	1.922	2.544	4.113
1.279	1.723	1.692	2.985	4.127
1.037	1.738	1.925	4.139	4.048
1.233	1.744	1.730	3.151	4.670
1.223	1.790	1.310	3.861	3.533
1.182	1.797	1.649	2.976	4.184
1.314	1.785	1.562	3.460	3.757
1.146	1.689	2.119	2.980	4.030
1.310	1.922	1.644	2.458	3.360
1.312	1.322	1.706	3.041	4.251
1.228	2.165	1.959	2.896	4.337
1.158	1.282	1.414	3.565	3.960
1.292	1.683	1.333	3.529	4.311
1.221	1.432	1.692	3.113	4.196

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) 62.0.0 mg/kg SEDIMENT PCB

0-TP12 EVENT 1	0-TP13 EVENT 2	1-TP13 EVENT 2	0-TP14 EVENT 3	0-TP15 EVENT 4
1.292	1.562	1.496	4.075	2.501
1.261	1.261	1.797	4.067	3.192
1.368	1.609	1.835	3.296	4.080
1.312	1.639	1.541	3.183	2.424
1.188	1.856	1.461	3.645	2.839
1.298	2.017	1.450	3.340	2.670
1.228	1.448	1.953	3.178	3.016
1.256	1.774	1.512	3.526	3.421
1.112	1.706	2.165	4.314	3.704
1.090	2.091	1.738	3.371	3.966
1.306	1.973	1.944	3.935	3.225
1.014	1.847	1.559	2.650	3.417
1.259	1.782	1.918	3.017	4.002
1.064	1.617	1.795	3.754	3.128
1.174	1.806	1.960	3.390	3.545
1.279	1.835	1.711	3.435	3.822
1.284	1.951	2.014	3.493	4.081
1.213	1.603	1.910	3.321	4.452
1.083	1.630	1.901	3.347	4.025
1.289	1.365	2.045	3.089	3.332
1.165	1.496	2.148	2.724	
1.219	2.011	1.830	2.998	
1.196	1.495	1.636	2.716	
1.381	1.135	2.340	2.907	
1.311	1.781	1.585	3.004	
1.172	1.914	1.633	3.862	
1.167	1.741			
1.430	1.934			
1.276	2.164			
1.299	1.594			
1.286	1.656			
1.248	1.640			
1.288	1.528			
1.193	1.986			

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 21 (38-VP-2) 62.0.0 mg/kg SEDIMENT PCB

	0-TP12 EVENT 1	0-TP13 EVENT 2	1-TP13 EVENT 2	0-TP14 EVENT 3	0-TP15 EVENT 4
	1.209				
	1.123				
	1.362				
	1.210				
	1.168				
	1.267				
	1.002				
	1.133				
	1.243				
	1.261				
	1.232				
	1.244				
	1.193				
	1.290				
	1.348				
	1.580				
	1.229				
	1.260				
	1.283				
	1.308				
	1.304				
	1.117				
	1.182				
	1.173				

Individual Growth Statistics Per Sample:

	92	68	60	60	54
N	92	68	60	60	54
Mean	1.233	1.743	1.789	3.322	3.714
Var. (S²)	0.008	0.054	0.063	0.206	0.331
SEM	0.010	0.028	0.032	0.059	0.078

Combined Growth Statistics Per Event:

	92	2	60	54
N	92	2	60	54
Mean	1.233	1.766	3.322	3.714
Var. (S²)	0.008	0.001	0.206	0.331
SEM	0.010	0.023	0.059	0.078

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) 2.2 mg/kg SEDIMENT PCB

0-TP15 EVENT 1	0-TP16 EVENT 2	0-TP18 EVENT 3	0-TP17 EVENT 4	1-TP17 EVENT 4
1.017	2.525	3.088	3.871	3.803
1.218	2.614	2.576	3.382	3.350
1.134	2.596	2.843	3.154	3.701
1.134	0.928	4.039	2.709	4.518
1.258	2.239	2.241	3.724	3.986
1.062	2.248	3.688	4.022	3.463
1.218	1.962	2.610	3.669	2.912
1.216	2.486	3.553	3.733	3.576
1.211	2.470	3.071	3.526	3.734
1.098	2.262	3.636	2.910	3.531
1.145	2.475	3.440	3.912	3.868
1.022	2.170	3.769	4.038	3.900
1.266	2.308	5.179	3.589	3.746
1.222	2.299	3.273	3.855	2.362
1.306	2.706	3.408	3.046	2.805
1.248	2.747	3.513	3.662	2.083
1.004	2.009	3.885	3.096	3.853
1.055	1.945	3.605	3.871	4.250
1.297	1.873	3.963	2.917	3.504
1.218	2.500	3.988	3.915	4.405
1.094	1.855	2.622	3.861	3.416
1.156	1.917	3.615	2.872	3.828
1.200	2.496	3.346	3.334	3.956
1.105	2.685	3.192	3.838	4.222
1.155	1.640	3.219	3.772	2.955
1.091	2.479	2.703	3.706	4.151
1.226	2.392	3.650	3.868	4.054
1.075	1.909	3.222	3.686	3.576
1.228	2.254	3.270	1.536	3.774
1.241	1.694	3.372	3.566	3.935
1.233	2.311	3.506	3.746	3.646
1.019	2.151	3.314	3.947	3.762
1.064	1.603	3.397	3.704	4.297
1.156	2.217	3.421	3.336	3.508
1.085	2.333	3.314	3.791	3.556
1.082	2.065	4.362	2.941	3.365

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 22 (46-VP-5) 2.2 mg/kg SEDIMENT PCB

	0-TP15 EVENT 1	0-TP16 EVENT 2	0-TP18 EVENT 3	0-TP17 EVENT 4	1-TP17 EVENT 4
	1.085	2.481	3.714	3.648	3.982
	1.217	1.717	2.823	3.567	3.904
	1.232	2.406	3.512	3.477	3.753
	1.005	1.797	3.761	3.691	4.199
	1.116	1.892	3.554	2.718	3.869
	1.360	2.556	3.767	3.809	3.874
	1.317	1.908	3.246	2.905	4.225
	1.068	2.093	3.486	4.047	3.727
	1.122	1.987	3.618	3.917	4.084
	1.126	2.517	2.536	3.204	4.004
	1.194	2.619	3.742	3.835	4.213
	1.228	1.773	3.651	3.353	4.178
	0.963	1.891	3.132	4.132	4.107
	1.137	1.818	3.820	4.125	4.061
	1.229	2.417	3.051	4.407	3.315
	0.984	2.204	3.140	3.485	3.090
	0.972	2.622	3.495	3.391	4.194
	1.000	2.038	3.605	3.816	4.326
	0.914	2.292	3.827	4.507	4.021
	0.948	2.498	3.034	4.028	4.276
	1.277	2.502	3.522	4.024	
	1.201	2.095	3.921		
	1.093	2.150			
	0.946	2.669			
	1.014	2.465			
	1.036	2.623			
	1.278				
	1.095				
	1.236				
	1.204				
	1.320				
	1.153				

Individual Growth Statistics Per Sample:

	68	62	58	57	56
N	68	62	58	57	56
Mean	1.142	2.216	3.428	3.582	3.763
Var. (S²)	0.011	0.121	0.229	0.242	0.232
SEM	0.013	0.044	0.063	0.065	0.064

Combined Growth Statistics Per Event:

	68	62	58	2
N	68	62	58	2
Mean	1.142	2.216	3.428	3.673
Var. (S²)	0.011	0.121	0.229	0.016
SEM	0.013	0.044	0.063	0.091

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	1-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.164	2.107	3.189	3.655	5.002
1.120	1.203	3.076	3.253	4.323
1.177	1.286	2.178	3.361	4.640
1.284	1.262	2.627	3.439	2.304
1.258	1.320	2.692	3.493	4.413
1.147	1.649	1.401	3.279	5.097
1.177	2.229	1.531	3.278	4.490
1.215	1.972	2.073	3.918	4.584
1.128	2.019	2.958	4.468	5.136
1.114	1.615	2.788	3.867	4.107
1.056	1.670	1.880	3.392	4.892
0.997	1.785	2.400	3.659	4.444
1.197	2.145	2.222	3.745	4.844
1.243	1.318	2.404	4.010	4.290
1.205	1.853	1.634	2.525	4.262
1.235	1.989	2.274	2.528	5.137
1.183	1.967	2.559	2.815	3.852
1.242	2.338	2.749	3.011	6.385
1.221	2.358	3.151	3.707	4.991
1.130	2.131	1.891	3.278	4.147
1.234	2.471	2.499	2.540	4.992
1.214	1.773	2.353	3.025	4.537
1.062	2.161	2.417	3.671	4.325
1.061	2.008	2.973	2.336	4.960
1.147	2.067	2.368	3.859	4.302
1.032	2.085	2.632	3.548	4.005
1.137	1.155	2.958	3.248	4.985
1.118	1.881	2.509	2.608	4.601
1.177	2.095	2.453	3.372	3.920
1.286	1.717	1.869	2.463	2.911
1.151	2.080	1.629	2.475	4.635
1.131	1.025	2.662	2.685	4.184
1.233	2.297	2.534	2.454	4.445
1.139	1.222	2.284	3.888	4.741
1.050	2.197	2.908	4.492	3.395
1.215	1.984	2.305	3.786	3.885
1.199	2.242	2.708	3.122	4.865
1.103	2.599	2.634	2.919	3.803
1.145	1.635	2.422	3.103	4.425
1.156	1.638	2.191	3.554	4.217
1.101	2.144	2.403	3.270	4.360
1.204	1.430	2.441	3.985	3.512
1.181	1.404	2.098	2.360	2.959
0.822	1.862	2.879	3.392	4.714
0.949	1.857	1.594	3.260	3.383

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	1-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.230	1.584	2.773	2.930	3.945
0.923	1.770	2.729	3.626	4.190
1.166	1.268	1.828	2.398	4.689
1.110	1.718	2.355	3.122	4.083
1.155	2.439	1.877	2.777	3.054
1.206	1.970	2.889	2.218	4.139
1.202		3.005	3.268	3.442
1.177		2.866	2.854	3.984
1.129		2.774	3.786	4.328
1.192		1.286	3.195	3.439
1.371		2.056	3.579	
1.085		1.437	2.587	
1.111		2.542	3.324	
0.902		2.431	3.740	
1.159		2.197	3.174	
1.171		2.532		
1.231		2.525		
1.174		2.678		
1.114		2.598		
1.032		2.039		
1.209				
1.189				
1.024				
1.134				
1.084				
1.120				
0.975				
1.234				
1.229				
1.139				
1.213				
1.246				
1.264				
1.231				
1.225				
1.216				
1.111				
1.225				
1.207				
1.183				

Individual Growth Statistics Per Sample:

	85	51	65	60	55
N	85	51	65	60	55
Mean	1.153	1.843	2.397	3.245	4.285
Var. (S²)	0.008	0.149	0.204	0.289	0.464
SEM	0.010	0.054	0.056	0.069	0.092

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

	0-TP01 EVENT 1	0-TP02 EVENT 2	1-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
Combined Growth Statistics Per Event:					
N	85	2		60	55
Mean	1.153	2.120		3.245	4.285
Var. (S²)	0.008	0.154		0.289	0.464
SEM	0.010	0.277		0.069	0.092

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4	0-TP05 EVENT 4	0-TP06 EVENT 4
0.947	1.270	2.034	4.190	4.224	4.105	2.263
1.091	1.256	1.923	3.971	3.527	4.583	5.037
1.247	1.209	1.967	4.552	4.602	4.881	4.260
1.308	1.094	2.035	4.412	4.775	5.483	
1.249	1.448	2.237	4.680	3.968	4.847	
1.132	1.295	2.440	4.402	4.253	4.866	
1.189	1.263	1.537	4.340	4.449	5.235	
1.280	1.092	1.783	3.934	3.584	5.028	
1.263	1.023	1.627	4.827	4.831	4.224	
1.193	1.164	2.304	4.689	4.614	5.056	
1.174	1.238	2.036	4.541	3.662	5.039	
1.292	1.065	2.129	4.090	4.004	5.682	
1.124	1.118	2.063	4.190	2.902	4.016	
1.119	1.246	1.684	3.923	4.132	4.171	
1.131	1.034	1.924	4.998	4.609	5.226	
1.187	1.033	1.820	4.795	2.356	5.067	
1.200	1.201	2.005	5.143	4.504	5.719	
1.198	1.136	1.371	4.437	4.377	5.381	
1.198	0.999	1.960	5.513	3.549	5.034	
1.212	1.141	1.883	5.474	2.948	5.147	
1.147	1.409	1.643	4.698	4.273		
1.125	1.270	1.912	4.384	4.282		
1.200	1.288	2.191	4.766	3.902		
1.269	1.117	1.988	4.718			
1.237	1.198	1.717	5.078			
1.272	1.315	1.511	4.699			
1.125	1.320	1.845	4.449			
1.081	1.322	2.236	4.030			
1.158	1.099	2.043	5.189			
1.116	1.264	2.213	5.119			
1.141	1.332	2.173	4.276			
1.132	1.180	2.079	4.705			
1.256	1.437	2.073	4.167			
1.175	1.175	1.799	4.283			
1.264	1.226	2.221	4.266			
1.064	1.014	1.873	5.058			
1.167	1.235	1.993				
1.205	1.296	1.465				
1.128	1.351	2.267				
1.051	1.278	1.797				
1.164	1.206	1.834				
1.157	1.197	2.064				
1.218	1.191	2.065				
1.238	1.029	2.004				
1.154	1.289	1.815				
1.281	1.190	1.850				
1.203	1.043	1.675				
1.181	1.022	1.824				
1.198	1.253	1.683				
1.250	1.232	1.956				
1.285	1.437	1.907				
1.063	1.403	1.730				

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4	0-TP05 EVENT 4	0-TP06 EVENT 4
1.230	1.121	2.083				
	1.132	1.909				
	1.314	2.076				
	1.207	2.167				
	1.214	1.926				
	1.159	2.417				
	1.354	1.964				
	1.164	1.993				
	1.104					
	1.247					
	1.189					
	1.193					
	1.035					
	1.064					
	1.169					
	1.197					
	1.031					
	1.200					

Individual Growth Statistics Per Sample:

	53	70	60	36	23	20	3
N	53	70	60	36	23	20	3
Mean	1.182	1.201	1.946	4.583	4.014	4.939	3.853
Var. (S²)	0.005	0.013	0.050	0.178	0.410	0.248	2.048
SEM	0.010	0.013	0.029	0.070	0.134	0.111	0.826

Combined Growth Statistics Per Event:

	2	60	36	3
N	2	60	36	3
Mean	1.191	1.946	4.583	4.406
Var. (S²)	0.000	0.050	0.178	0.621
SEM	0.009	0.029	0.070	0.455

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) 0.11 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 3	0-TP05 EVENT 4	0-TP06 EVENT 4
1.376518	1.341823	3.274182	5.060915	4.462718	5.111826	4.132981
1.304029	1.296672	2.026717	5.059310	4.712474	5.284784	4.067211
1.341146	1.610695	1.866268	4.999521	5.089710	4.824313	4.401046
1.231854	1.489510	2.281438	4.838938	5.119976	4.605165	4.745240
1.304806	1.573616	2.050129	4.865304	5.076855	4.522230	4.836808
1.245050	1.473661	1.400886	3.291259	4.732905	4.739801	1.743041
1.124686	1.707198	1.229185	4.700163	4.257484	5.019000	5.030605
1.073778	1.732592	2.363048	4.185927	4.191617	4.696845	4.829599
1.436670	1.685632	2.791272	5.386612	4.687289	5.229626	5.120746
1.385390	1.659297	1.857324	5.631950	4.865830	4.968022	4.687303
1.179083	1.686741	1.801455	4.859764	2.977291	4.776265	4.761214
1.485537	1.510295	2.847034	4.956853	3.505658	5.008280	4.924967
1.374471	1.617649	2.794328	4.312047	3.439545	4.979958	5.529567
1.344884	1.721871	2.504891	5.259002	3.417332	4.547762	2.495625
1.473664	1.719295	2.919139	4.537987	3.121294	4.801150	4.167950
1.315756	1.604092	2.624709	4.480165	3.404619	4.730269	4.540991
1.327446	1.701606	1.684810	4.778003	3.611010	3.768794	4.493631
1.591257	1.536040	2.813582	5.063883	3.528654	4.997867	2.890760
1.316269	1.640962	1.940351	3.571827	3.353758	4.596229	4.317935
1.166098	1.578058	2.262741	3.771123	3.516056	5.160148	
1.161842	1.514943	2.069305	5.533942	3.032989	4.618869	
1.343780	1.781518	2.304537	4.602477	3.251999	5.127334	
1.514289	1.357745	2.281317	4.804021	2.698002	5.639531	
1.356522	1.471013	2.632423	4.539093	3.714811	4.271777	
1.420714	1.486121	1.959943	4.161886	3.495401	3.662800	
1.353406	1.368970	2.444867	4.940577	2.837490	5.043984	
1.477703	1.553166	2.906211	5.000358	3.398507	5.829028	
1.465402	1.551672	2.681734	4.973471	3.138847	4.872578	
1.221926	1.649151	2.969437	5.067589	3.404947	4.850332	
1.327943	1.869732	2.622028	5.426791	3.513455	5.191742	
1.569581	1.521932	2.558285	4.714629		5.250652	
1.334429	1.604588	2.386455	4.685220		5.149846	
1.290833	1.761107	2.088060	5.086037		5.106943	
1.532907	1.601361	2.525947	4.704998		5.710154	
1.072118	1.596050	2.102280	5.149487			
1.823937	1.670135	2.345177	4.570669			
1.591778	1.531494	1.624382	4.816329			
1.593678	1.217306	2.459557				
1.109579	1.519752	2.176820				
1.319085	1.472941	2.114514				
1.480276	1.478963	2.332912				
1.198443	1.398939	1.834982				
1.254660	1.390664	2.176529				
1.419064	1.450524	2.581087				
1.675628	1.246703	2.126028				
1.261549	1.312961	2.096091				
1.228151	1.498301	2.321592				
1.608977	1.384928	2.262070				
1.398664	1.536679	2.117252				
1.255926	1.153746	1.990577				
1.240116	1.540559	1.955040				
1.111582	1.643617	2.140769				

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 29 (23b-VP-2) 0.11 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 3	0-TP05 EVENT 4	0-TP06 EVENT 4
1.180110	1.681404	2.090651				
1.116464	1.391808	2.925511				
1.442030	1.493779	2.395051				
1.245851	1.575252	2.295930				
1.307708	1.428219	2.541408				
1.631989	1.618418	2.064677				
1.447502	1.548212	1.679593				
1.459913	1.052864					
1.446462	1.283895					
1.157013	1.647422					
1.392290	1.554034					
1.245994	1.759505					
1.616037	1.618504					
1.290604	1.404546					
1.304295	1.451910					
1.291883	1.195192					
1.559985	0.944889					
1.224916	1.141514					
1.371765	1.009817					
1.031952						

Individual Growth Statistics Per Sample:

	72	71	59	37	30	34	19
N	72	71	59	37	30	34	19
Mean	1.349690	1.504588	2.279907	4.767247	3.785284	4.902762	4.300906
Var. (S²)	0.025881	0.034918	0.162984	0.250544	0.533430	0.203858	0.901378
SEM	0.018959	0.022176	0.052559	0.082289	0.133345	0.077433	0.217809

Combined Growth Statistics Per Event:

	2	59	2	2
N	2	59	2	2
Mean	1.427	2.280	4.328	4.687
Var. (S²)	0.012	0.163	0.613	0.526
SEM	0.077	0.053	0.554	0.513

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 4	1-TP03 EVENT 4
1.245	2.768	4.882	4.833
0.966	3.507	4.535	5.606
1.105	2.978	5.120	5.209
1.231	3.397	5.509	5.597
0.889	3.225	5.104	5.415
1.066	3.061	5.235	5.195
1.092	3.711	4.455	4.875
1.155	3.901	4.350	5.544
1.051	3.494	5.005	4.706
1.235	3.452	4.762	4.928
0.873	2.839	4.923	5.680
1.034	3.368	5.234	5.568
0.849	3.403	4.592	5.719
1.072	3.163	4.531	5.107
0.907	3.497	3.622	5.275
1.037	3.367	5.083	5.397
0.937		5.267	5.181
1.082		4.872	4.907
0.957		4.513	4.635
1.217		5.033	5.593
1.230		4.898	4.773
1.141		5.375	5.289
1.173		4.825	4.994
1.017		4.895	4.899
1.045		4.511	4.965
1.133		4.723	5.637
1.067		4.842	5.635
1.082		4.618	4.707
0.938		4.833	5.098
1.047		5.096	5.439
1.073		4.283	5.807
1.043		4.868	5.172
0.926		5.394	5.593
1.137		5.044	5.180
1.241		5.131	5.120
1.026		5.420	5.168
0.846		5.427	5.114
1.056		5.160	5.233
1.017		5.179	5.561
0.941		5.183	5.277
1.081		5.190	5.183

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 4	1-TP03 EVENT 4
1.000		5.274	5.477
1.132		4.933	5.637
1.011		4.612	5.326
1.124		5.117	5.422
1.058		4.218	5.541
1.109		5.244	5.756
0.926		5.109	5.553
1.111		4.824	5.220
1.082		5.176	5.376
1.117		4.629	5.500
0.906		4.880	5.793
1.028		4.975	5.058
1.065		4.790	4.987
0.736		4.995	
0.952		4.736	
0.941			
1.044			
1.127			
1.125			
1.182			
1.073			
1.056			
1.241			
0.872			
0.938			
1.073			
1.105			
1.241			
1.229			
0.914			
0.966			
1.136			
1.138			
1.008			
1.025			
0.949			
0.966			
0.798			
0.965			
0.991			
1.111			

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

	0-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 4	1-TP03 EVENT 4
	1.080			
	1.065			
	0.884			
	1.241			
	1.067			
	1.087			
	0.980			
	0.920			
	1.566			
	1.072			

Individual Growth Statistics Per Sample:

	92	16	56	54
N				
Mean	1.052	3.321	4.911	5.286
Var. (S²)	0.015	0.092	0.123	0.095
SEM	0.013	0.076	0.047	0.042

Combined Growth Statistics Per Event:

	92	16	2
N			
Mean	1.052	3.321	5.099
Var. (S²)	0.015	0.092	0.070
SEM	0.013	0.076	0.188

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 2	0-TP04 EVENT 2	0-TP05 EVENT 3	0-TP06 EVENT 4
1.181	1.224	3.062	3.592	3.990	3.857	5.249
1.294	1.270	4.481	2.832	3.060	4.364	5.117
1.283	1.176	5.222	3.852	1.875	3.431	4.857
1.119	1.144	2.674	2.565	4.478	4.439	5.173
1.042	1.332	3.145	3.617	3.848	3.545	5.253
1.170	1.063		3.863	4.407	3.952	5.335
1.289	1.405		2.815	4.194	3.701	4.859
1.315	1.273		3.508	2.890	4.243	4.870
0.925	1.442		3.850	3.734		5.135
1.312	1.276		3.350			4.523
1.055	1.310		3.958			5.242
1.156	1.321		2.145			4.885
1.193	1.341		2.103			4.642
1.395	1.332		3.516			4.881
1.179	1.238		2.619			4.926
1.145	1.266					4.970
1.111	1.098					5.049
1.380	1.240					3.976
0.984	1.291					4.697
1.268	1.377					5.272
1.174	1.223					5.300
1.145	1.121					5.267
1.166	1.192					5.049
1.118	1.181					5.239
1.178	1.159					5.093
1.352	1.307					4.503
1.116	1.201					4.985
1.005	1.061					4.799
1.165	1.250					5.397
1.059	1.211					4.576
0.974	1.311					4.310
1.298	1.207					4.803
1.157	1.124					5.026
0.940	1.189					4.692
0.992	1.143					5.166
1.140	1.181					4.801
1.350	1.378					5.089
1.064	1.335					4.942
1.250	1.317					4.917
1.135	1.165					4.778
1.234	1.113					4.939
1.358	1.296					4.775
1.129	1.195					5.054
1.111	1.156					4.431
1.400	1.150					4.585
0.969	1.125					4.571
1.325	1.015					4.896
1.404	1.554					5.172
1.144	1.433					4.930
1.096	1.330					5.448
1.109	1.600					5.487
1.311	1.359					4.987
1.209	1.143					4.809
1.190	1.214					5.253

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 2	0-TP04 EVENT 2	0-TP05 EVENT 3	0-TP06 EVENT 4
1.105	1.334					
1.105	1.647					
1.002	1.344					
1.166	1.345					
1.134	1.376					
1.349						
1.092						
1.100						
1.197						
1.159						
1.356						
1.346						
1.079						
1.274						
1.072						
1.257						
1.114						
0.870						
1.083						
1.136						
1.254						
1.343						
1.328						
1.314						
1.413						
1.115						
1.123						
0.982						
1.187						
1.165						
1.272						
1.095						
1.341						
1.075						
1.142						
1.273						
1.220						
1.125						
1.289						
1.161						
1.279						
0.969						
1.167						
1.133						
1.317						
1.167						
1.205						
1.314						
1.125						
1.167						
1.059						
1.420						

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 2	0-TP04 EVENT 2	0-TP05 EVENT 3	0-TP06 EVENT 4
1.507						
1.187						
1.149						
1.294						
1.185						
1.236						
1.273						
1.193						
1.172						
1.105						
1.032						
1.281						
1.055						
1.209						
1.079						
1.112						
1.658						
1.059						
1.094						
1.352						
0.965						
1.422						
0.966						
1.141						
1.248						
1.207						
1.117						
1.330						
1.315						
1.225						
1.064						
1.135						
0.866						
1.150						
1.264						
1.335						
1.301						
1.346						
1.391						
1.132						
1.193						

Individual Growth Statistics Per Sample:

	147	59	5	15	9	8	54
N	147	59	5	15	9	8	54
Mean	1.187	1.261	3.717	3.212	3.608	3.941	4.944
Var. (S²)	0.017	0.016	1.173	0.410	0.722	0.143	0.090
SEM	0.011	0.016	0.484	0.165	0.283	0.134	0.041

Combined Growth Statistics Per Event:

	2	3	8	54
N	2	3	8	54
Mean	1.224	3.422	3.941	4.944
Var. (S²)	0.003	0.629	0.143	0.090
SEM	0.037	0.458	0.134	0.041

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 41 (WML-1) 0.007 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.151	1.167	2.084	4.061	4.678
1.140	0.971	2.573	3.319	4.704
1.189	1.151	2.456	3.405	2.334
1.027	1.057	2.876	4.135	3.983
0.982	1.074	2.269	4.244	4.133
1.057	1.065	2.721	3.555	1.993
1.057	0.974	2.463	2.872	4.660
1.146	1.040	2.740	3.440	4.429
1.121	1.146	3.073	3.326	4.102
1.107	0.955	2.869	2.954	4.296
1.098	1.139	2.707	4.023	2.259
1.149	1.168	2.212	3.454	3.869
1.168	1.197	2.810	3.936	4.559
1.098	1.080	2.001	3.120	4.327
1.143	1.183	2.876	3.749	4.187
1.036	1.012	2.606	4.031	4.559
1.075	1.116	2.571	3.145	4.171
1.066	1.093	2.313	3.352	4.439
1.027	1.029	2.460	3.419	3.201
1.069	1.153	3.216	3.274	4.205
1.096	1.141	2.466	2.818	1.832
1.116	1.123	2.651	4.001	2.062
0.965	1.089	2.413	3.879	3.425
1.216	1.031	2.394	3.434	3.816
1.089	1.087	2.800	3.160	4.167
1.160	1.167	2.515	3.815	3.729
1.077	1.130	2.493	3.738	1.837
1.075	1.166	1.906	4.024	3.549
0.916	1.068	2.697	2.237	4.446
1.007	1.174	2.719	3.450	4.004
1.077	1.121	2.382	3.849	4.310
1.000	1.081	2.528	3.400	3.925
1.182	1.113	2.294	3.631	3.600
1.110	1.136	2.852	3.741	4.225
1.057	1.080	1.508	2.945	1.943
0.991	1.103	2.270	1.930	4.358
1.072	1.077	2.750	2.790	4.602
1.077	1.058	3.017	3.867	4.288
1.186	1.077	2.371	2.964	3.530
1.133	1.173	2.949	3.614	3.930
1.069	1.105	2.881	3.917	4.010
0.976	1.058	3.053	3.834	4.158
0.969	1.264	3.077	3.899	3.854
0.849	1.101	3.063	2.739	2.216
0.959	1.101	2.895	3.620	4.398

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 41 (WML-1) 0.007 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	1-TP01 EVENT 1	0-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.099	1.141	2.698	4.042	4.423
1.104	1.048	2.854	3.353	3.413
1.120	1.040	2.839	3.759	4.051
1.062	1.158	3.001	3.888	3.561
1.123	1.119	2.768	3.307	3.350
0.992	1.103	2.824	2.889	4.417
1.016	0.977	3.058	4.488	4.372
1.131	1.140	2.088	4.330	4.337
1.122	1.074	2.458	3.764	3.290
1.096	1.101	3.132	2.521	
1.080	1.053	2.701	2.292	
1.012	1.101	2.616	3.751	
0.978	1.037	3.195	3.168	
1.107	1.103	2.228	3.907	
1.053	1.069	2.820	3.159	
1.098	1.175	2.602	3.170	
1.069	1.196	1.920	2.943	
1.079	1.120	2.667	2.942	
1.099	1.184	2.135	3.415	
1.031	1.065	3.151		
1.029	1.086	3.203		
1.161	1.144	2.821		
1.132	0.909	1.841		
1.081	1.120	1.549		
1.127	1.081	3.076		
1.127	1.162	3.229		
1.029	0.949	2.952		
1.133	1.153	2.804		
1.115	1.012	3.140		
1.203	1.040	2.816		
1.130	0.947	2.000		
1.069	1.133	3.014		
0.994		3.127		
1.126				
1.061				
1.057				
1.022				

Individual Growth Statistics Per Sample:

	82	77	78	64	54
N	82	77	78	64	54
Mean	1.078	1.095	2.643	3.456	3.787
Var. (S²)	0.004	0.004	0.154	0.275	0.671
SEM	0.007	0.008	0.044	0.066	0.111

Combined Growth Statistics Per Event:

	2	78	64	54
N	2	78	64	54
Mean	1.087	2.643	3.456	3.787
Var. (S²)	0.000	0.154	0.275	0.671
SEM	0.009	0.044	0.066	0.111

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 43 (WML-3) 0.011 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	1-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.373	2.275	1.959	4.061	3.637
1.263	2.161	2.033	3.319	3.576
1.540	1.485	2.040	3.405	4.074
1.496	1.847	1.962	4.135	3.218
1.530	1.652	1.681	4.244	3.840
1.488	1.450	2.144	3.555	4.009
1.644	2.484	1.998	2.872	3.533
1.659	2.387	2.085	3.440	4.237
1.391	2.177	2.198	3.326	3.376
1.566	1.938	1.991	2.954	3.008
1.529	1.977	1.684	4.023	3.743
1.603	1.900	1.972	3.454	3.411
1.546	2.547	2.087	3.936	4.284
1.385	2.377	1.968	3.120	3.174
1.408	1.834	1.867	3.749	3.060
1.455	2.076	1.992	4.031	4.485
1.663	1.783	1.985	3.145	3.478
1.568	2.110	2.321	3.352	3.400
1.393	2.186	2.007	3.419	3.638
1.377	2.013	2.079	3.274	3.492
1.515	2.080	1.739	2.818	2.713
1.546	1.942	1.917	4.001	3.665
1.486	2.218	2.177	3.879	3.662
1.584	1.645	2.031	3.434	3.394
1.646	2.552	1.710	3.160	3.580
1.594	2.202	2.098	3.815	3.754
1.489	1.776	1.825	3.738	3.887
1.548	2.073	1.821	4.024	3.826
1.594	2.034	2.190	2.237	3.652
1.221	1.966	1.966	3.450	3.901
1.539	2.284	1.840	3.849	3.839
1.368	2.307	2.261	3.400	3.597
1.615	1.771	1.537	3.631	4.171
1.405	1.707	1.829	3.741	3.433
1.419	1.945	2.054	2.945	3.086
1.457	2.149	2.091	1.930	3.897
1.472	1.611	1.831	2.790	3.803
1.497	2.362	1.771	3.867	3.918
1.606	1.679	2.017	2.964	3.470
1.485	1.822	2.344	3.614	3.718
1.624	1.615	2.284	3.917	3.640
1.540	2.057	2.296	3.834	3.368
1.664	1.698	1.716	3.899	3.521
1.453	1.626	1.695	2.739	2.932
1.428	1.907	1.969	3.620	3.064

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 43 (WML-3) 0.011 mg/kg SEDIMENT PCB

0-TP01 EVENT 1	0-TP02 EVENT 2	1-TP02 EVENT 2	0-TP03 EVENT 3	0-TP04 EVENT 4
1.486	2.550	2.140	4.042	2.934
1.558	1.703	1.628	3.353	3.055
1.495	2.099	2.276	3.759	3.380
1.514	1.829	1.748	3.888	3.861
1.614	1.852	1.775	3.307	3.498
1.377	1.714	1.828	2.889	3.507
1.194	2.059	2.050	4.488	3.266
1.340	1.439	2.028	4.330	3.437
1.259	1.482	1.701	3.764	3.622
1.341	2.204	1.897	2.521	4.462
1.468	2.098	1.868	2.292	3.337
1.522	1.856	2.031	3.751	3.919
1.831	1.744	2.071	3.168	3.852
1.503		1.897	3.907	3.584
1.523		2.167	3.159	3.088
1.652		2.152		3.170
1.514		1.937		
1.637		2.357		
1.562		1.800		
1.332		2.181		
1.611		1.923		
1.681		1.834		
1.486		1.991		
		1.886		
		1.928		
		2.138		
		1.950		
		2.423		
		2.062		
		1.661		
		1.986		
		1.857		
		1.895		
		1.928		
		1.999		

Individual Growth Statistics Per Sample:

N	68	58	80	60	61
Mean	1.503	1.971	1.976	3.479	3.576
Var. (S ²)	0.014	0.083	0.035	0.283	0.141
SEM	0.014	0.038	0.021	0.069	0.048

Combined Growth Statistics Per Event:

N	68	2	60	61
Mean	1.503	1.973	3.479	3.576
Var. (S ²)	0.014	0.000	0.283	0.141
SEM	0.014	0.002	0.069	0.048

VERNAL POOL STUDY 2000
PHASE II GROWTH DATA (Length in cm)
SITE 41, 43 (WML-1, 3) ND mg/kg SEDIMENT PCB
COMBINED REFERENCE SITES

Average Growth Statistics Per Event:

	EVENT 1	EVENT 2	EVENT 3	EVENT 4
N	2	2	2	2
Grand Mean	1.295	2.308	3.468	3.682
Average Var(S²)	0.007	0.077	0.279	0.406
SEM	0.060	0.196	0.374	0.451

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 20 (8-VP-1) 14.5 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP08	61	37	60.66					20	20	13		37	27			
1-TP08	54	24	44.44	2				13	13		15	24	13			
TOTAL NO.	115	61		2	0	0	0	33	33	13	15	61	40	0	0	
% MALFORMED			53.04	1.74	0.00	0.00	0.00	28.70	28.70	11.30	13.04	53.04	34.78	0.00	0.00	
VAR (S ²)			131.4													
SEM			8.1													
CV (%)			21.6													

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP09	9	0	0.00													
TOTAL NO.	9	0		0	0	0	0	0	0	0	0	0	0	0	0	
% MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP10	3	0	0.00													
TOTAL NO.	3	0		0	0	0	0	0	0	0	0	0	0	0	0	
% MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP11	1	0	0.00									2				
0-TP12	10	3	30.00	1												
TOTAL NO.	11	3		1	0	0	0	0	0	0	0	2	0	0	0	
% MALFORMED			27.27	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.18	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	138	64		3	0	0	0	33	33	13	15	63		40		0	0
% MALFORMED-Avg Across Events			20.08	2.71	0.00	0.00	0.00	7.17	7.17	2.83	3.26	17.81		8.70		0.00	0.00
VAR (S ²)			648.2	18.8	0.0	0.0	0.0	205.9	205.9	31.9	42.5	625.3		302.5		0.0	0.0
SEM			12.7	2.2	0.0	0.0	0.0	7.2	7.2	2.8	3.3	12.5		8.7		0.0	0.0
CV (%)			126.8	160.1	na	na	na	200.0	200.0	na	na	na		200.0		na	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 21 (38-VP-2) 62.0 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP12	92	29	31.52	12				3	3			13	25		
TOTAL NO.	92	29		12	0	0	0	3	3	0	0	13	25	0	0
% MALFORMED			31.52	13.04	0.00	0.00	0.00	3.26	3.26	0.00	0.00	14.13	27.17	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP13	68	4	5.88		1		4								
1-TP13	60	2	3.33				1								
TOTAL NO.	128	6		0	1	0	5	0	0	0	0	0	0	0	1
% MALFORMED			4.69	0.00	0.78	0.00	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78
VAR (S ²)			3.2												
SEM			1.3												
CV (%)			38.5												

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP14	60	1	1.67		1										
TOTAL NO.	60	1		0	1	0	0	0	0	0	0	0	0	0	0
% MALFORMED			1.67	0.00	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP15	54	39	72.22	9	27	22	26					18			
TOTAL NO.	54	39		9	27	22	26	0	0	0	0	18	0	0	0
% MALFORMED			72.22	16.67	50.00	40.74	48.15	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	334	75		21	29	22	31	3	3	0	0	31	25	0	1
% MALFORMED-Avg Across Events			27.52	7.43	13.11	10.19	13.01	0.82	0.82	0.00	0.00	11.87	6.79	0.00	0.20
VAR (S ²)			1068.0	75.7	605.2	415.0	552.0	2.7	2.7	0.0	0.0	249.2	184.6	0.0	0.2
SEM			16.3	4.4	12.3	10.2	11.7	0.8	0.8	0.0	0.0	7.9	6.8	0.0	0.2
CV (%)			118.7	117.2	187.6	200.0	180.5	200.0	200.0	na	na	133.0	200.0	na	200.0

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 22 (46-VP-5) 3.6 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP15	68	6	8.82					5	5	5	5	6	5			
TOTAL NO.	68	6		0	0	0	0	5	5	5	5	6	5	0	0	
% MALFORMED			8.82	0.00	0.00	0.00	0.00	7.35	7.35	7.35	7.35	8.82	7.35	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP18	62	2	3.23									2				
TOTAL NO.	62	2		0	0	0	0	0	0	0	0	2	0	0	0	
% MALFORMED			3.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.23	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP18	58	6	10.34	1	1							5				
TOTAL NO.	58	6		1	1	0	0	0	0	0	0	5	0	0	0	
% MALFORMED			10.34	1.72	1.72	0.00	0.00	0.00	0.00	0.00	0.00	8.62	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP17	57	2	3.51									2				
1-TP17	56	2	3.57									2				
TOTAL NO.	113	4		0	0	0	0	0	0	0	0	4	0	0	0	
% MALFORMED			3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.54	0.00	0.00	0.00	
VAR (S ²)			0.0													
SEM			0.0													
CV (%)			1.3													

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	301	18		1	1	0	0	5	5	5	5	17	5	0	0	
% MALFORMED-Avg Across Events			6.48	0.43	0.43	0.00	0.00	1.84	1.84	1.84	1.84	6.05	1.84	0.00	0.00	
VAR (S ²)			13.2	0.7	0.7	0.0	0.0	13.5	13.5	13.5	13.5	9.5	13.5	0.0	0.0	
SEM			1.8	0.4	0.4	0.0	0.0	1.8	1.8	1.8	1.8	1.5	1.8	0.0	0.0	
CV (%)			56.1	200.0	200.0	na	na	200.0	200.0	200.0	200.0	51.0	200.0	na	na	

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP01	85	5	5.88	4								3		1	
TOTAL NO.	85	5		4	0	0	0	0	0	0	0	3	0	1	0
% MALFORMED			5.88	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53	0.00	1.18	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP02	51	0	0.00												
1-TP02	65	2	3.08		2		2								
TOTAL NO.	116	2		0	2	0	2	0	0	0	0	0	0	0	0
% MALFORMED			1.72	0.00	1.72	0.00	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)			4.7												
SEM			1.5												
CV (%)			126.2												

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP03	60	20	33.33	12								14			
TOTAL NO.	60	20		12	0	0	0	0	0	0	0	14	0	0	0
% MALFORMED			33.33	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.33	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP04	55	3	5.45									3			
TOTAL NO.	55	3		0	0	0	0	0	0	0	0	3	0	0	0
% MALFORMED			5.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.45	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	316	30		16	2	0	2	0	0	0	0	20	0	1	0
% MALFORMED-Avg Across Events			11.60	6.18	0.43	0.00	0.43	0.00	0.00	0.00	0.00	8.08	0.00	0.29	0.00
VAR (S ²)			213.4	89.9	0.7	0.0	0.7	0.0	0.0	0.0	0.0	108.5	0.0	0.3	0.0
SEM			7.3	4.7	0.4	0.0	0.4	0.0	0.0	0.0	0.0	5.2	0.0	0.3	0.0
CV (%)			126.0	153.5	200.0	na	200.0	na	na	na	na	128.9	na	200.0	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP01	53	12	22.64	1				1	1		1	12	2		
1-TP01	70	9	12.86					1	1		1	9			
TOTAL NO.	123	21		1	0	0	0	2	2	0	2	21	2	0	0
% MALFORMED			17.07	0.81	0.00	0.00	0.00	1.63	1.63	0.00	1.63	17.07	1.63	0.00	0.00
VAR (S ²)			47.9												
SEM			4.9												
CV (%)			40.5												

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP02	60	2	3.33		2		2								
TOTAL NO.	60	2		0	2	0	2	0	0	0	0	0	0	0	0
% MALFORMED			3.33	0.00	3.33	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP03	36	2	5.56	2								1			
TOTAL NO.	36	2		2	0	0	0	0	0	0	0	1	0	0	0
% MALFORMED			5.56	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP04	23	0	0.00												
0-TP05	20	2	10.00									1	1		
0-TP06	3	0	0.00												
TOTAL NO.	46	2		0	0	0	0	0	0	0	0	1	1	0	0
% MALFORMED			4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	2.17	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	265	27		3	2	0	2	2	2	0	2	23	3	0	0
% MALFORMED-Avg Across Events			7.58	1.59	0.83	0.00	0.83	0.41	0.41	0.00	0.41	5.51	0.95	0.00	0.00
VAR (S ²)			40.9	7.1	2.8	0.0	2.8	0.7	0.7	0.0	0.7	60.9	1.3	0.0	0.0
SEM			3.2	1.3	0.8	0.0	0.8	0.4	0.4	0.0	0.4	3.9	0.6	0.0	0.0
CV (%)			84.4	167.7	200.0	na	200.0	200.0	200.0	na	200.0	141.7	117.8	na	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 29 (23b-VP-2) 0.11 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP01	72	12	16.67		1	1	1		1		1	10	1			
1-TP01	71	16	22.54					4	4	5	4	15				
TOTAL NO.	143	28		0	1	1	1	4	5	5	5	25	1	0	0	
% MALFORMED			19.58	0.00	0.70	0.70	0.70	2.80	3.50	3.50	3.50	17.48	0.70	0.00	0.00	
VAR (S ²)			17.2													
SEM			2.9													
CV (%)			21.2													

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP02	59	0	0.00												
TOTAL NO.	59	0		0	0	0	0	0	0	0	0	0	0	0	0
% MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S²)															
SEM															
CV (%)															

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION												
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER	
0-TP03	37	2	5.41	2									2			
0-TP04	30	3	10.00		1											
TOTAL NO.	67	5		2	1	0	0	0	0	0	0	2	0	0	0	0
% MALFORMED			7.46	2.99	1.49	0.00	0.00	0.00	0.00	0.00	0.00	2.99	0.00	0.00	0.00	0.00
VAR (S ²)																
SEM																
CV (%)																

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP05	34	0	0.00												
0-TP06	19	0	0.00												
TOTAL NO.	53	0		0	0	0	0	0	0	0	0	0	0	0	0
% MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	322	33		2	2	1	1	4	5	5	5	27		1	0	0
% MALFORMED-Avg Across Events			6.76	0.75	0.55	0.17	0.17	0.70	0.87	0.87	0.87	5.12		0.17	0.00	0.00
VAR (S ²)			85.4	2.2	0.5	0.1	0.1	2.0	3.1	3.1	3.1	69.9		0.1	0.0	0.0
SEM			4.6	0.7	0.4	0.2	0.2	0.7	0.9	0.9	0.9	4.2		0.2	0.0	0.0
CV (%)			136.7	200.0	129.7	200.0	200.0	200.0	200.0	200.0	200.0	163.4		200.0	na	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP01	92	91	98.91			1	5	45	45		45	63	31	18	
TOTAL NO.	92	91		0	0	1	5	45	45	0	45	63	31	18	0
% MALFORMED			98.91	0.00	0.00	1.09	5.43	48.91	48.91	0.00	48.91	68.48	33.70	19.57	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP02	16	7	43.75		2							5			
TOTAL NO.	16	7		0	2	0	0	0	0	0	0	5	0	0	0
% MALFORMED			43.75	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	31.25	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
NO SAMPLES COLLECTED															
TOTAL NO.															
% MALFORMED															
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP03	56	8	14.29		1			1		1		7			
1-TP03	54	4	7.41		1							3			
TOTAL NO.	110	12		0	2	0	0	1	0	1	0	10	0	0	0
% MALFORMED			10.91	0.00	1.82	0.00	0.00	0.91	0.00	0.91	0.00	9.09	0.00	0.00	0.00
VAR (S ²)			23.7												
SEM			3.4												
CV (%)			44.6												

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	218	110		0	4	1	5	46	45	1	45	78	31	18	0
% MALFORMED-Avg Across Events			51.19	0.00	4.77	0.36	1.81	16.61	16.30	0.30	16.30	36.27	11.23	6.52	0.00
VAR (S ²)			1977.7	0.0	45.6	0.4	9.8	782.9	797.5	0.3	797.5	900.6	378.5	127.6	0.0
SEM			22.2	0.0	3.4	0.3	1.6	14.0	14.1	0.3	14.1	15.0	9.7	5.6	0.0
CV (%)			86.9	na	141.5	173.2	173.2	168.5	173.2	173.2	173.2	82.7	173.2	173.2	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	
0-TP01	147	63	42.86			1						7			61
1-TP01	59	18	30.51	1											17
TOTAL NO.	206	81		1	0	1	0	0	0	0	0	7	0	0	78
% MALFORMED			39.32	0.49	0.00	0.49	0.00	0.00	0.00	0.00	0.00	3.40	0.00	0.00	37.86
VAR (S ²)			76.2												
SEM			6.2												
CV (%)			22.2												

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	
0-TP02	5	0	0.00				1								
0-TP03	15	1	6.67		1										
0-TP04	9	0	0.00												
TOTAL NO.	29	1		0	1	0	1	0	0	0	0	0	0	0	0
% MALFORMED			3.45	0.00	3.45	0.00	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	
0-TP05	8	4	50.00				3						1		
TOTAL NO.	8	4		0	0	0	3	0	0	0	0	0	1	0	0
% MALFORMED			50.00	0.00	0.00	0.00	37.50	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	
0-TP06	54	1	1.85									1			
TOTAL NO.	54	1		0	0	0	0	0	0	0	0	1	0	0	0
% MALFORMED			1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.85	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	297	87		1	1	1	4	0	0	0	0	8	1	0	78
% MALFORMED-Avg Across Events			23.66	0.12	0.86	0.12	10.24	0.00	0.00	0.00	0.00	1.31	3.13	0.00	9.47
VAR (S ²)			607.7	0.1	3.0	0.1	333.0	0.0	0.0	0.0	0.0	2.7	39.1	0.0	358.4
SEM			12.3	0.1	0.9	0.1	9.1	0.0	0.0	0.0	0.0	0.8	3.1	0.0	9.5
CV (%)			104.2	200.0	200.0	200.0	178.3	na	na	na	na	125.1	200.0	na	200.0

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 41 (WML-1) 0.069 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP01	82	8	9.76				1	1	1			8			
1-TP01	77	11	14.29	1								10			
TOTAL NO.	159	19		1	0	0	1	1	1	0	0	18	0	0	0
% MALFORMED			11.95	0.63	0.00	0.00	0.63	0.63	0.63	0.00	0.00	11.32	0.00	0.00	0.00
VAR (S ²)			10.3												
SEM			2.3												
CV (%)			26.8												

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP02	78	4	5.13	4										4	
TOTAL NO.	78	4		4	0	0	0	0	0	0	0	0	0	4	0
% MALFORMED			5.13	5.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.13	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP03	64	1	1.56		1										
TOTAL NO.	64	1		0	1	0	0	0	0	0	0	0	0	0	0
% MALFORMED			1.56	0.00	1.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP04	54	1	1.85				1								
TOTAL NO.	54	1		0	0	0	1	0	0	0	0	0	0	0	0
% MALFORMED			1.85	0.00	0.00	0.00	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	355	25		5	1	0	2	1	1	0	0	18	0	4	0
% MALFORMED-Avg Across Events			5.12	1.44	0.39	0.00	0.62	0.16	0.16	0.00	0.00	2.83	0.00	1.28	0.00
VAR (S ²)			23.3	6.1	0.6	0.0	0.8	0.1	0.1	0.0	0.0	32.0	0.0	6.6	0.0
SEM			2.4	1.2	0.4	0.0	0.4	0.2	0.2	0.0	0.0	2.8	0.0	1.3	0.0
CV (%)			94.3	172.1	200.0	na	140.8	200.0	200.0	na	na	200.0	na	200.0	na

VERNAL POOL LARVAL STUDY 2000
PHASE II *RANA sylvatica* LARVAL MALFORMATION DATA
SITE 43 (WML-3) 0.11 mg/kg SEDIMENT PCB

EVENT 1 (EARLY EMBRYO-LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP01	68	1	1.47									1				
TOTAL NO.	68	1		0	0	0	0	0	0	0	0	1	0	0	0	
% MALFORMED			1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 2 (LARVAL STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP02	58	1	1.72									1				
1-TP02	80	4	5.00									4				
TOTAL NO.	138	5		0	0	0	0	0	0	0	0	5	0	0	0	
% MALFORMED			3.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.62	0.00	0.00	0.00	
VAR (S ²)			5.4													
SEM			1.6													
CV (%)			63.9													

EVENT 3 (ADVANCED LARVAL-PREMETAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION										HEMORRHAGE	CARDIAC	BLISTER
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT				
0-TP03	60	2	3.33	1								2				
TOTAL NO.	60	2		1	0	0	0	0	0	0	0	2	0	0	0	
% MALFORMED			3.33	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33	0.00	0.00	0.00	
VAR (S ²)																
SEM																
CV (%)																

EVENT 4 (METAMORPHIC STAGE)

SAMPLE ID	NO. OF LARVAE	NUMBER MALFORMED	% MAL.	TYPE OF MALFORMATION											
				EDEMA	TAIL	NOTOCHORD	FIN	FACE	BRAIN	EYE	MOUTH	GUT	HEMORRHAGE	CARDIAC	BLISTER
0-TP04	61	0	0.00												
TOTAL NO.	61	0		0	0	0	0	0	0	0	0	0	0	0	0
% MALFORMED			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAR (S ²)															
SEM															
CV (%)															

SITE SUMMARY FOR ALL EVENTS:

TOTAL NO.	327	8		1	0	0	0	0	0	0	0	8	0	0	0	0
% MALFORMED-Avg Across Events			2.11	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11	0.00	0.00	0.00	0.00
VAR (S ²)			2.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0
SEM			0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
CV (%)			80.6	200.0	na	na	na	na	na	na	na	80.6	na	na	na	na

Appendix E

Phase III – Specimens Inventory List

Sex Ratio/Abnormality/ Weight Data

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III SAMPLE INVENTORY**

Weston Sample ID	Site Location	Chain of Custody	Sample Date	Date Received	Work Order #	Lab #	Sample Description
H2-SW000040-0-0L06	20	2330	07/06/00	07/07/00	7807	1	WATER
H3-TA02RS20-0-MM01	20	2343	07/06/00	07/07/00	7811	1	METAMORPH
H2-TA02RS20-0-MM01	20	2365	07/11/00	07/12/00	7811	2	METAMORPH
H2-TA02RS20-0-MM01	20	2379	07/13/00	07/14/00	7811	3	METAMORPH
H3-SW000039-0-0L06	21	2333	07/06/00	07/07/00	7808	1	WATER
H3-TA08RS21-0-MM01	21	2342	07/06/00	07/07/00	7810	1	METAMORPH
H3-TA08RS21-0-MM01	21	2332	07/06/00	07/07/00	7810	5	METAMORPH
H3-TA08RS21-0-MM01	21	2326	07/05/00	07/06/00	7810	6	METAMORPH
H3-TA08RS21-1-MM01	21	2342	07/06/00	07/07/00	7810	2	METAMORPH
H3-TA08RS21-1-MM01	21	2349	07/07/00	07/08/00	7810	3	METAMORPH
H3-TA08RS21-1-MM01	21	2375	07/12/00	07/13/00	7810	4	METAMORPH
H3-SW000036-0-0L06	22	2329	07/06/00	07/07/00	7802	3	WATER
H3-TA10RS22-0-MM01	22	2318	07/05/00	07/06/00	7802	1	METAMORPH
H3-TA10RS22-0-MM01	22	2329	07/06/00	07/07/00	7802	2	METAMORPH
H3-TA10RS22-0-MM01	22	2345	07/07/00	07/08/00	7802	4	METAMORPH
H3-TA10RS22-0-MM01	22	2358	07/10/00	07/11/00	7802	6	METAMORPH
H3-TA10RS22-1-MM01	22	2358	07/10/00	07/11/00	7802	5	METAMORPH
H3-TA10RS22-1-MM01	22	2361	07/11/00	07/12/00	7802	7	METAMORPH
H3-TA10RS22-1-MM01	22	2374	07/12/00	07/13/00	7802	8	METAMORPH
H3-TA10RS22-1-MM01	22	2388	07/13/00	07/14/00	7802	9	METAMORPH
H3-SW000038-0-0L06	27	2327	07/06/00	07/07/00	7799	4	WATER
H3-TA04RS27-0-MM01	27	2324	07/05/00	07/06/00	7799	1	METAMORPH
H3-TA04RS27-0-MM01	27	2327	07/06/00	07/07/00	7799	3	METAMORPH
H3-TA04RS27-1-MM01	27	2327	07/06/00	07/07/00	7799	2	METAMORPH
H3-SW000041-0-0U29	28	2310	06/29/00	06/30/00	7787	1	WATER
H3-TA05RS28-0-MM01	28	2310	06/29/00	06/30/00	7787	2	METAMORPH
H3-TA05RS28-0-MM01	28	2320	06/30/00	07/01/00	7787	4	METAMORPH
H3-TA05RS28-1-MM01	28	2320	06/30/00	07/01/00	7787	3	METAMORPH
H3-SW000042-0-0U29	29	2311	06/29/00	06/30/00	7786	1	WATER
H3-TA05RS29-0-MM01	29	2325	07/05/00	07/06/00	7803	1	METAMORPH
H3-TA05RS29-0-MM01	29	2339	07/06/00	07/07/00	7803	2	METAMORPH
H3-TA05RS29-0-MM01	29	2348	07/07/00	07/08/00	7803	3	METAMORPH
H3-TA05RS29-1-MM01	29	2359	07/11/00	07/12/00	7803	4	METAMORPH
H3-TA05RS29-1-MM01	29	2376	07/12/00	07/13/00	7803	5	METAMORPH
H3-TA05RS29-1-MM01	29	2387	07/13/00	07/14/00	7803	6	METAMORPH
H3-TA05RS29-1-MM01	29	2391	07/14/00	07/15/00	7803	7	METAMORPH

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III SAMPLE INVENTORY**

Weston Sample ID	Site Location	Chain of Custody	Sample Date	Date Received	Work Order #	Lab #	Sample Description
H3-SW000037-0-0L06	30	2334	07/06/00	07/07/00	7809	1	WATER
H3-TA08RS30-0-MM01	30	2331	07/06/00	07/07/00	7800	2	METAMORPH
H3-TA08RS30-0-MM01	30	2341	07/06/00	07/07/00	7800	2	METAMORPH
H3-TA08RS30-0-MM01	30	2346	07/07/00	07/08/00	7800	3	METAMORPH
H3-TA08RS30-0-MM01	30	2357	07/10/00	07/11/00	7800	4	METAMORPH
H3-TA08RS30-1-MM01	30	2357	07/10/00	07/11/00	7800	5	METAMORPH
H3-TA08RS30-1-MM01	30	2360	07/11/00	07/12/00	7800	6	METAMORPH
<hr/>							
H3-SW000043-0-0L06	32	2328	07/06/00	07/07/00	7801	4	WATER
H3-TA08RS32-0-MM01	32	2323	07/05/00	07/06/00	7801	1	METAMORPH
H3-TA08RS32-0-MM01	32	2328	07/06/00	07/07/00	7801	3	METAMORPH
H3-TA08RS32-1-MM01	32	2328	07/06/00	07/07/00	7801	2	METAMORPH
<hr/>							
H9-SW000045-0-0L06	41	2340	07/06/00	07/07/00	7806	1	WATER
H9-TAWLRS41-0-MM01	41	2347	07/07/00	07/08/00	7817	1	METAMORPH
H9-TAWLRS41-0-MM01	41	2364	07/11/00	07/12/00	7817	2	METAMORPH
H9-TAWLRS41-0-MM01	41	2373	07/12/00	07/13/00	7817	3	METAMORPH
H9-TAWLRS41-0-MM01	41	2380	07/13/00	07/14/00	7817	4	METAMORPH
H9-TAWLRS41-0-MM01	41	2392	07/14/00	07/15/00	7817	5	METAMORPH
H9-TAWLRS41-0-MM01	41	2412	07/24/00	07/25/00	7817	6	METAMORPH
H9-TAWLRS41-0-MM01	41	2416	07/25/00	07/26/00	7817	7	METAMORPH
H9-TAWLRS41-0-MM01	41	2420	07/31/00	08/01/00	7817	8	METAMORPH
<hr/>							
H9-SW000047-0-0L13	43	2378	07/13/00	07/14/00	7835	2	WATER
H9-SW000047-0-0G02	43	2425	08/02/00	08/03/00	7886	2	WATER
H9-TAWLRS43-0-MM01	43	2421	08/01/00	08/02/00	7886	1	METAMORPH
H9-TAWLRS43-0-MM01	43	2436	08/04/00	08/05/00	7896	1	METAMORPH
H9-TAWLRS43-0-MM01	43	2437	08/07/00	08/08/00	7896	2	METAMORPH
H9-TAWLRS43-0-MM01	43	2430	08/03/00	08/04/00	7886	3	METAMORPH
H9-TAWLRS43-0-MM01	43	2442	08/08/00	08/09/00	7896	3	METAMORPH
H9-TAWLRS43-0-MM01	43	2450	08/10/00	08/11/00	7896	4	METAMORPH
H9-TAWLRS43-0-MM01	43	2454	08/15/00	08/16/00	7896	5	METAMORPH
H9-TAWLRS43-0-MM01	43	2455	08/16/00	08/17/00	7896	6	METAMORPH
H9-TAWLRS43-0-MM01	43	2462	08/24/00	08/25/00	7896	7	METAMORPH
H9-TAWLRS43-1-MM01	43	2462	08/24/00	08/25/00	7896	8	METAMORPH
H9-TAWLRS43-1-MM01	43	2463	08/25/00	08/26/00	7896	9	METAMORPH

**HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA SUMMARY**

SITE DESCRIPTION	SEX RATIO (%)		ABNORMALITIES BY SEX (%)			MEAN WEIGHT (g)	SEM
	MALE	FEMALE	MALE	FEMALE	TOTAL		
8-VP-1 (14.5 mg/kg PCB)	0.0	100.0	0.0	66.7	66.7	0.815	0.053
18-VP-2 (6.05 mg/kg PCB)	31.2	68.8	13.8	32.8	26.9	0.712	0.010
23b-VP-1 (0.19 mg/kg PCB)	50.0	50.0	3.9	5.9	4.9	0.773	0.008
23b-VP-2 (0.11 mg/kg PCB)	39.2	60.8	5.0	6.5	5.9	0.888	0.020
38-VP-1 (28.0 mg/kg PCB)	20.0	80.0	20.0	46.3	41.0	0.795	0.018
38-VP-2 (62.0 mg/kg PCB)	19.2	80.8	42.1	53.8	51.5	0.452	0.010
46-VP-1 (0.5 mg/kg PCB)	46.7	53.3	8.2	8.9	8.6	0.612	0.008
46-VP-5 (2.2 mg/kg PCB)	33.7	66.3	3.0	12.3	9.2	0.421	0.018
WML-1 (0.007 mg/kg PCB)	38.2	61.8	0.0	0.0	0.0	0.403	0.012
WML-3 (0.011 mg/kg PCB)	50.0	50.0	0.0	5.9	2.9	0.297	0.006
WML-1,3 (0.01 mg/kg PCB)	46.1	53.9	0.0	3.6	2.0	0.333	0.007

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 20 (8-VP-1) 14.5 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALITIES (DELT#NECROPSY OBSERVATIONS)
H2-TA02RS20-0-MM01	7811-001-01	0.725	0	1	0	1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H2-TA02RS20-0-MM01	7811-001-02	0.868	0	1	0	1	1	EYE LENS, ABNORMAL THORAX, LIVER LESIONS
H2-TA02RS20-0-MM01	7811-001-03	0.828	0	1	0	1	1	EYE LENS, FACIAL IRREGULARITIES, MISSHAPED GONAD WITH LESIONS, LIVER NECROSIS
H2-TA02RS20-0-MM01	7811-002-04	0.978	0	1	0	0	0	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H2-TA02RS20-0-MM01	7811-003-05	0.876	0	1	0	0	0	
N		5	0	3	0	2	2	
MEAN WT.		0.815						
VAR(S ²)		0.014						
SEM		0.053						
CV (%)		14.543						
SEX RATIO (%)			0.000	100.000				
ABNORMAL BY SEX (%)					0.000	66.667	66.667	
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 21 (38-VP-2) 62.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DEL T ₀ NECROPSY OBSERVATIONS)
H3-TA08RS21-0-MM01	7810-006-01	0.423		1				
H3-TA08RS21-0-MM01	7810-006-02	0.888		1				LIVER LESIONS, GONADAL DISPLACEMENT
H3-TA08RS21-0-MM01	7810-006-03	0.429		1		1	1	ABNORMAL SKIN MATURATION, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-006-04	0.677		1				EYE LENS, LIVER NECROSIS
H3-TA08RS21-0-MM01	7810-006-05	0.457		1			1	
H3-TA08RS21-0-MM01	7810-006-06	0.492	1		1		1	
H3-TA08RS21-0-MM01	7810-006-07	0.416		1			1	
H3-TA08RS21-0-MM01	7810-006-08	0.445		1			1	HEART NECROSIS, LIVER LESIONS
H3-TA08RS21-0-MM01	7810-006-09	0.451		1		1	1	
H3-TA08RS21-0-MM01	7810-006-10	0.405		1			1	
H3-TA08RS21-0-MM01	7810-006-11	0.357		1			1	
H3-TA08RS21-0-MM01	7810-006-12	0.430		1		1	1	MISSHAPED EYE LENS, LIVER LESIONS, GONADAL LESIONS/NECROSIS
H3-TA08RS21-0-MM01	7810-006-13	0.314		1			1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-0-MM01	7810-006-14	0.366		1			1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-0-MM01	7810-006-15	0.553		1			1	NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-16							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-17							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-18							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-19							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-20							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-21							NUMBER SKIPPED, SPECIMEN NON-EXISTENT.
H3-TA08RS21-0-MM01	7810-001-22	0.442						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-0-MM01	7810-001-23	0.303						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-0-MM01	7810-001-24	0.485						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-0-MM01	7810-001-25	0.574						EDEMA, EYE, HEMORRHAGE, CARDIAC, LIVER AND GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-001-26	0.369						LIVER NECROSIS, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-001-27	0.358	1				1	LIVER NECROSIS, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-001-28	0.348					1	EDEMA, HEMORRHAGE, LIVER AND GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-001-29	0.965					1	LIVER AND GONADS MOTTLED
H3-TA08RS21-0-MM01	7810-001-30	0.404					1	LIVER AND GONADS MOTTLED
H3-TA08RS21-0-MM01	7810-001-31	0.395					1	
H3-TA08RS21-0-MM01	7810-001-32	0.445					1	
H3-TA08RS21-0-MM01	7810-005-33	0.364					1	
H3-TA08RS21-0-MM01	7810-005-34	0.425					1	LIVER MOTTLED AND CRACKED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-35	0.634					1	
H3-TA08RS21-0-MM01	7810-005-36	0.423					1	LIVER MOTTLED AND CRACKED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-37	0.360	1				1	EYE, LIVER MOTTLED AND CRACKED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-38	0.412					1	
H3-TA08RS21-0-MM01	7810-005-39	0.406					1	EYE
H3-TA08RS21-0-MM01	7810-005-40	0.376					1	
H3-TA08RS21-0-MM01	7810-005-41	0.280					1	EDEMA, HEMORRHAGE, CARDIAC, LIVER MOTTLED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-42	0.419					1	
H3-TA08RS21-0-MM01	7810-005-43	0.390	1				1	LIVER MOTTLED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-44	0.396					1	LIVER MOTTLED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-45	0.463					1	LIVER MOTTLED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-46	0.343					1	LIVER NECROSIS, GONADAL NECROSIS, LIMB
H3-TA08RS21-0-MM01	7810-005-47	0.453	1		1		1	
H3-TA08RS21-0-MM01	7810-005-48	0.404					1	
H3-TA08RS21-0-MM01	7810-005-49	0.360					1	
H3-TA08RS21-0-MM01	7810-005-50	0.395					1	HEMORRHAGE, LIVER MOTTLED
H3-TA08RS21-0-MM01	7810-005-51	0.479	1		1		1	
H3-TA08RS21-0-MM01	7810-005-52	0.520					1	FACE, EYE, HEMORRHAGE, CARDIAC, LIVER AND GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-53	0.460					1	LIVER MOTTLED AND CRACKED, GONADAL NECROSIS
H3-TA08RS21-0-MM01	7810-005-54	0.438					1	LIVER MOTTLED
H3-TA08RS21-0-MM01	7810-005-55	0.462					1	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 21 (38-VP-2) 62.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALS (DELTA=NECROPSY OBSERVATIONS)
H3-TA08RS21-0-MM01	7810-005-56	0.443	1		1		1	EYE LENS, LIVER LESIONS, GONADAL NECROSIS, HEART HEMORRHAGE
H3-TA08RS21-0-MM01	7810-005-57	0.444		1		1	1	LIVER NECROSIS (MISSING LOBE)
H3-TA08RS21-0-MM01	7810-005-58	0.352		1		1	1	GONADAL DISPLACEMENT AND NECROSIS
<hr/>								
N		52	8	39	4	23	27	
MEAN WT.		0.446						
VAR(S) ²		0.015						
SEM		0.017						
CV (%)		27.329						
SEX RATIO (%)				82.979		58.974		
ABNORMAL BY SEX (%)			17.021		50.000		57.447	
TOTAL ABNORMAL (%)								

H3-TA08RS21-1-MM01	7810-002-01	0.395		1		1	1	EYE LENS, LIVER NECROSIS
H3-TA08RS21-1-MM01	7810-002-02	0.529		1		1	1	LIVER NECROSIS
H3-TA08RS21-1-MM01	7810-002-03	0.769		1		1	1	
H3-TA08RS21-1-MM01	7810-002-04	0.505	1					GONADAL, LIVER, AND OVARIAN NECROSIS
H3-TA08RS21-1-MM01	7810-002-05	0.473		1		1	1	NOTOCHORD, ABNORMAL SKIN MATURATION, GONADAL, LIVER, AND OVARIAN NECROSIS
H3-TA08RS21-1-MM01	7810-002-06	0.480		1		1	1	ABNORMAL SKIN MATURATION, GONADAL, LIVER, OVARIAN NECROSIS
H3-TA08RS21-1-MM01	7810-002-07	0.433		1		1	1	
H3-TA08RS21-1-MM01	7810-002-08	0.376	1			1	1	ABNORMAL SKIN MATURATION, GONADAL NECROSIS
H3-TA08RS21-1-MM01	7810-002-09	0.439		1		1	1	ABNORMAL SKIN MATURATION, TUMOR
H3-TA08RS21-1-MM01	7810-002-10	0.408	1		1			
H3-TA08RS21-1-MM01	7810-002-11	0.436		1				
H3-TA08RS21-1-MM01	7810-002-12	0.460		1				
H3-TA08RS21-1-MM01	7810-002-13	0.550		1				
H3-TA08RS21-1-MM01	7810-002-14	0.444		1		1	1	GONADAL NECROSIS, LIVER LESIONS
H3-TA08RS21-1-MM01	7810-002-15	0.368	1					
H3-TA08RS21-1-MM01	7810-002-16	0.443		1				
H3-TA08RS21-1-MM01	7810-002-17	0.427		1				
H3-TA08RS21-1-MM01	7810-002-18	0.438		1				
H3-TA08RS21-1-MM01	7810-002-19	0.337		1				
H3-TA08RS21-1-MM01	7810-002-20	0.311		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-1-MM01	7810-002-21	0.467	1		1			A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-1-MM01	7810-002-22	0.459		1		1	1	EYE LENS, LIVER TUMOR, ABNORMAL SKIN MATURATION, GONADAL AND OVARIAN NECROSIS
H3-TA08RS21-1-MM01	7810-002-23	0.468		1		1	1	LIVER AND GONADAL NECROSIS, ASSYMETRICAL
H3-TA08RS21-1-MM01	7810-003-24	0.482	1		1			ABNORMAL SKIN MATURATION
H3-TA08RS21-1-MM01	7810-003-25	0.462		1		1	1	ABNORMAL SKIN MATURATION, LIVER NECROSIS
H3-TA08RS21-1-MM01	7810-003-26	0.498		1		1	1	
H3-TA08RS21-1-MM01	7810-003-27	0.406		1		1	1	FORELIMB, LIVER NECROSIS
H3-TA08RS21-1-MM01	7810-003-28	0.461		1		1	1	
H3-TA08RS21-1-MM01	7810-003-29	0.539	1					
H3-TA08RS21-1-MM01	7810-003-30	0.402		1				
H3-TA08RS21-1-MM01	7810-003-31	0.416		1				NUMBER SKIPPED SPECIMEN NON-EXISTENT.
H3-TA08RS21-1-MM01	7810-003-32			1				
H3-TA08RS21-1-MM01	7810-003-33	0.408		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-1-MM01	7810-003-34	0.442		1				LIVER AND GONADAL NECROSIS
H3-TA08RS21-1-MM01	7810-003-35	0.494		1		1	1	PERICARDIAL EDEMA, HEART, LIVER, AND GONADAL NECROSIS
H3-TA08RS21-1-MM01	7810-003-36	0.428		1		1	1	
H3-TA08RS21-1-MM01	7810-003-37	0.551	1		1			A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-1-MM01	7810-003-38	0.589	1					CARDIAL HEMORRHAGE, LIVER TUMOR, ASSYMETRICAL GONAD, GONADAL NECROSIS
H3-TA08RS21-1-MM01	7810-003-39	0.568		1		1	1	
H3-TA08RS21-1-MM01	7810-003-40	0.508		1				

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 21 (38-VP-2) 62.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTaNECROPSY OBSERVATIONS)
H3-TA08RS21-1-MM01	7810-003-41	0.355		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED EYE LENS, CARDIAC, HEMORRHAGE, LIVER AND GONADAL NECROSIS, TRANSLOCATED GONAD
H3-TA08RS21-1-MM01	7810-003-42	0.482		1				
H3-TA08RS21-1-MM01	7810-003-43	0.492		1				
H3-TA08RS21-1-MM01	7810-003-44	0.348		1		1	1	CARDIAC, HEMORRHAGE, LIVER AND GONADAL NECROSIS, ASSYMETRIC HIND LIMB GROWTH
H3-TA08RS21-1-MM01	7810-003-45	0.597		1				
H3-TA08RS21-1-MM01	7810-003-46	0.420		1		1	1	
H3-TA08RS21-1-MM01	7810-003-47	0.540		1		1	1	EYE LENS, CARDIAC, HEMORRHAGE, LIVER AND GONADAL NECROSIS CARDIAC, HEMORRHAGE, GONADAL NECROSIS A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS21-1-MM01	7810-003-48	0.481		1		1	1	
H3-TA08RS21-1-MM01	7810-003-49	0.355		1				
H3-TA08RS21-1-MM01	7810-004-50	0.455		1		1	1	ABNORMAL SKIN MATURATION, GONADAL NECROSIS
H3-TA08RS21-1-MM01	7810-004-51	0.448		1				
H3-TA08RS21-1-MM01	7810-004-52	0.442	1			1	1	
H3-TA08RS21-1-MM01	7810-004-53	0.531		1				ABNORMAL SKIN MATURATION, GONADAL NECROSIS, LIVER LESIONS
H3-TA08RS21-1-MM01	7810-004-54	0.403	1					
H3-TA08RS21-1-MM01	7810-004-55	0.470		1		1	1	
H3-TA08RS21-1-MM01	7810-004-56	0.348		1				LIVER LESIONS
H3-TA08RS21-1-MM01	7810-004-57	0.410		1				
H3-TA08RS21-1-MM01	7810-004-58	0.472		1		1	1	
H3-TA08RS21-1-MM01	7810-004-59	0.388		1				ABNORMAL SKIN MATURATION, GONADAL NECROSIS

N	58	11	4	20	24
MEAN WT.	0.457				
VAR(S) ²	0.006				
SEM	0.010				
CV (%)	16.495				
SEX RATIO (%)					
ABNORMAL BY SEX (%)					
TOTAL ABNORMAL (%)	21.154	78.846	36.364	48.760	48.154

COMBINED DATA

COUNT	110	19	80	43	51
MEAN WT.	0.452				
VAR(S) ²	0.010				
SEM	0.010				
CV (%)	22.079				
SEX RATIO (%)					
ABNORMAL BY SEX (%)					
TOTAL ABNORMAL (%)	19.192	80.808	42.105	53.750	51.515

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 22 (46-VP-5) 2.2 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTS/NECROPSY OBSERVATIONS)
H3-TA10RS22-O-MM01	7802-001-01	0.533	1					
H3-TA10RS22-O-MM01	7802-001-02	0.208	1					
H3-TA10RS22-O-MM01	7802-001-03	0.665		1				
H3-TA10RS22-O-MM01	7802-001-04	0.719		1				
H3-TA10RS22-O-MM01	7802-001-05	0.649	1					
H3-TA10RS22-O-MM01	7802-001-06	0.762		1				
H3-TA10RS22-O-MM01	7802-001-07	0.786	1					
H3-TA10RS22-O-MM01	7802-001-08	0.316	1					
H3-TA10RS22-O-MM01	7802-001-09	0.292	1					
H3-TA10RS22-O-MM01	7802-001-10	0.268		1				
H3-TA10RS22-O-MM01	7802-001-11	0.364		1				
H3-TA10RS22-O-MM01	7802-001-12	0.342		1				
H3-TA10RS22-O-MM01	7802-001-13	0.302		1				
H3-TA10RS22-O-MM01	7802-001-14	0.288		1				
H3-TA10RS22-O-MM01	7802-001-15	0.360		1				
H3-TA10RS22-O-MM01	7802-002-16	0.682	1		1		1	
H3-TA10RS22-O-MM01	7802-002-17	0.668		1				
H3-TA10RS22-O-MM01	7802-002-18	0.770		1				
H3-TA10RS22-O-MM01	7802-002-19	0.600	1					
H3-TA10RS22-O-MM01	7802-002-20	0.701		1				
H3-TA10RS22-O-MM01	7802-002-21	0.348		1				
H3-TA10RS22-O-MM01	7802-002-22	0.329		1				
H3-TA10RS22-O-MM01	7802-002-23	0.662		1				
H3-TA10RS22-O-MM01	7802-002-24	0.666		1				
H3-TA10RS22-O-MM01	7802-002-25	0.431	1					
H3-TA10RS22-O-MM01	7802-002-26	0.397		1				
H3-TA10RS22-O-MM01	7802-002-27	0.301		1				
H3-TA10RS22-O-MM01	7802-002-28	0.377	1					
H3-TA10RS22-O-MM01	7802-004-29	0.896	1					
H3-TA10RS22-O-MM01	7802-004-30	0.345		1				
H3-TA10RS22-O-MM01	7802-004-31	0.377		1				
H3-TA10RS22-O-MM01	7802-004-32	0.406	1					
H3-TA10RS22-O-MM01	7802-004-33	0.871	1					
H3-TA10RS22-O-MM01	7802-004-34	0.500	1					
H3-TA10RS22-O-MM01	7802-004-35	0.376		1				
H3-TA10RS22-O-MM01	7802-004-36	0.792		1				
H3-TA10RS22-O-MM01	7802-004-37	0.406		1				
H3-TA10RS22-O-MM01	7802-004-38	0.818	1					
H3-TA10RS22-O-MM01	7802-004-39	0.358		1				
H3-TA10RS22-O-MM01	7802-004-40	0.683	1					
H3-TA10RS22-O-MM01	7802-004-41	0.434		1				
H3-TA10RS22-O-MM01	7802-004-42	0.407		1				
H3-TA10RS22-O-MM01	7802-004-43	0.305	1					
H3-TA10RS22-O-MM01	7802-004-44	0.414		1				
H3-TA10RS22-O-MM01	7802-006-45	0.352		1				
H3-TA10RS22-O-MM01	7802-006-46	0.276		1				
H3-TA10RS22-O-MM01	7802-006-47	0.270		1				
H3-TA10RS22-O-MM01	7802-006-48	0.321		1				
H3-TA10RS22-O-MM01	7802-006-49	0.380		1				

A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
LIVER NECROSIS, GONADAL DYSPLASIA

EYE, LIVER SPOT/LESIONS
A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED

A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED

A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED

GONADAL NECROSIS, LIVER LESIONS

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 22 (46-VP-5) 2.2 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALITIES (DELTA/NECROPSY OBSERVATIONS)
H3-TA10RS22-0-MM01	7802-006-50	0.272		1				
H3-TA10RS22-0-MM01	7802-006-51	0.321		1				
H3-TA10RS22-0-MM01	7802-006-52	0.381	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-0-MM01	7802-006-53	0.330		1				
H3-TA10RS22-0-MM01	7802-006-54	0.337		1				
N								
MEAN WT.								
VARI(S²)								
SEM								
CV (%)								
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
		54	18	30	1	2	3	
		0.474						
		0.037						
		0.026						
		40.654						
			37.500	62.500	5.556	6.667	6.250	
SEX RATIO (%)								
H3-TA10RS22-1-MM01	7802-005-01	0.292	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-1-MM01	7802-005-02	0.381		1				
H3-TA10RS22-1-MM01	7802-005-03	0.336		1				
H3-TA10RS22-1-MM01	7802-005-04	0.520		1				
H3-TA10RS22-1-MM01	7802-005-05	0.358		1				
H3-TA10RS22-1-MM01	7802-005-06	0.303	1					
H3-TA10RS22-1-MM01	7802-005-07	0.331		1				
H3-TA10RS22-1-MM01	7802-005-08	0.362	1					
H3-TA10RS22-1-MM01	7802-005-09	0.566	1					
H3-TA10RS22-1-MM01	7802-007-10	0.291		1				
H3-TA10RS22-1-MM01	7802-007-11	0.721		1			1	LIVER LESIONS. GONADAL MISPLACEMENT
H3-TA10RS22-1-MM01	7802-007-12	0.323		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-1-MM01	7802-007-13	0.753		1			1	LIVER LESIONS. GONADAL MISPLACEMENT
H3-TA10RS22-1-MM01	7802-008-14	0.210		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-1-MM01	7802-008-15	0.562		1				
H3-TA10RS22-1-MM01	7802-008-16	0.260		1				
H3-TA10RS22-1-MM01	7802-008-17	0.286	1				1	FOOT, LIVER NECROSIS
H3-TA10RS22-1-MM01	7802-008-18	0.285		1				
H3-TA10RS22-1-MM01	7802-008-19	0.377		1				
H3-TA10RS22-1-MM01	7802-008-20	0.300		1				
H3-TA10RS22-1-MM01	7802-008-21	0.328	1					
H3-TA10RS22-1-MM01	7802-008-22	0.345		1				
H3-TA10RS22-1-MM01	7802-008-23	0.524		1				
H3-TA10RS22-1-MM01	7802-008-24	0.403	1					
H3-TA10RS22-1-MM01	7802-008-25	0.302		1				
H3-TA10RS22-1-MM01	7802-008-26	0.216		1				
H3-TA10RS22-1-MM01	7802-008-27	0.200		1				
H3-TA10RS22-1-MM01	7802-008-28	0.221		1				
H3-TA10RS22-1-MM01	7802-008-29	0.241	1					
H3-TA10RS22-1-MM01	7802-008-30	0.816		1				
H3-TA10RS22-1-MM01	7802-008-31	0.226	1					
H3-TA10RS22-1-MM01	7802-008-32	0.281		1				
H3-TA10RS22-1-MM01	7802-008-33	0.301	1					
H3-TA10RS22-1-MM01	7802-008-34	0.278		1			1	LIVER LESIONS AND SPOTS
H3-TA10RS22-1-MM01	7802-008-35	0.213	1					
H3-TA10RS22-1-MM01	7802-008-36	0.250		1				

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 22 (46-VP-5) 2.2 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT6/NECROPSY OBSERVATIONS)
H3-TA10RS22-1-MM01	7802-008-37	0.199		1				
H3-TA10RS22-1-MM01	7802-008-38	0.276		1				
H3-TA10RS22-1-MM01	7802-008-39	0.284	1			1	1	EYE LENS, GONADAL NECROSIS, LIVER LESIONS
H3-TA10RS22-1-MM01	7802-008-40	0.246		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-1-MM01	7802-008-41	0.322						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA10RS22-1-MM01	7802-008-42	0.265		1				
H3-TA10RS22-1-MM01	7802-008-43	0.786		1				
H3-TA10RS22-1-MM01	7802-009-44	0.370		1				
H3-TA10RS22-1-MM01	7802-009-45	0.306		1				
H3-TA10RS22-1-MM01	7802-009-46	0.312	1					
H3-TA10RS22-1-MM01	7802-009-47	0.756		1				
H3-TA10RS22-1-MM01	7802-009-48	0.431	1			1	1	MIS-COILED GUT, GONADAL NECROSIS, LIVER SPOTS, WORMS
H3-TA10RS22-1-MM01	7802-009-49	0.673		1				
H3-TA10RS22-1-MM01	7802-009-50	0.260		1				
H3-TA10RS22-1-MM01	7802-009-51	0.340		1				
H3-TA10RS22-1-MM01	7802-009-52	0.389		1				
H3-TA10RS22-1-MM01	7802-009-53	0.446		1				
H3-TA10RS22-1-MM01	7802-009-54	0.365	1					
H3-TA10RS22-1-MM01	7802-009-55	0.307		1				
<hr/>								
N	55		15	35	0	6	6	
MEAN WT.	0.369							
VAR(S ²)	0.025							
SEM	0.021							
CV (%)	43.203							
SEX RATIO (%)			30.000	70.000	0.000	17.143	12.000	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
<hr/>								
COMBINED DATA								
COUNT	109		33	65	1	3	9	
MEAN WT.	0.421							
VAR(S ²)	0.034							
SEM	0.018							
CV (%)	43.619							
SEX RATIO (%)			33.673	66.327	3.030	12.308	9.184	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTS/NECROPSY OBSERVATIONS)
H3-TA04RS27-Q-MM01	7799-001-01	0.662		1				
H3-TA04RS27-Q-MM01	7799-001-02	0.918		1				
H3-TA04RS27-Q-MM01	7799-001-03	0.616	1					
H3-TA04RS27-Q-MM01	7799-001-04	0.736		1				
H3-TA04RS27-Q-MM01	7799-001-05	0.842		1				
H3-TA04RS27-Q-MM01	7799-001-06	0.847		1				
H3-TA04RS27-Q-MM01	7799-001-07	0.821		1			1	LIVER LESIONS, GONADAL ATROPHY
H3-TA04RS27-Q-MM01	7799-001-08	0.813	1					
H3-TA04RS27-Q-MM01	7799-001-09	0.739	1					
H3-TA04RS27-Q-MM01	7799-001-10	0.683		1			1	EYE LENS, LIVER LESIONS, GONADAL MISPLACEMENT, HEART HIND LIMBS
H3-TA04RS27-Q-MM01	7799-001-11	0.539		1			1	
H3-TA04RS27-Q-MM01	7799-001-12	0.801		1				
H3-TA04RS27-Q-MM01	7799-001-13	0.718		1				
H3-TA04RS27-Q-MM01	7799-001-14	0.761		1				
H3-TA04RS27-Q-MM01	7799-001-15	0.783	1					
H3-TA04RS27-Q-MM01	7799-001-16	0.724		1			1	EYE LENS, LIVER LESIONS, GONADAL MISPLACEMENT
H3-TA04RS27-Q-MM01	7799-001-17	0.719	1		1			
H3-TA04RS27-Q-MM01	7799-001-18	0.785	1					
H3-TA04RS27-Q-MM01	7799-001-19	0.769		1				LIVER LESIONS LIVER LESIONS
H3-TA04RS27-Q-MM01	7799-001-20	0.700		1		1	1	
H3-TA04RS27-Q-MM01	7799-001-21	0.844		1		1	1	
H3-TA04RS27-Q-MM01	7799-001-22	0.985		1				
H3-TA04RS27-Q-MM01	7799-001-23	0.775		1			1	GONADAL AND LIVER NECROSIS
H3-TA04RS27-Q-MM01	7799-001-24	0.777		1				
H3-TA04RS27-Q-MM01	7799-001-25	0.886	1					
H3-TA04RS27-Q-MM01	7799-001-26	0.755		1				
H3-TA04RS27-Q-MM01	7799-001-27	0.765	1					
H3-TA04RS27-Q-MM01	7799-001-28	0.824	1					
H3-TA04RS27-Q-MM01	7799-001-29	0.726		1				
H3-TA04RS27-Q-MM01	7799-001-30	0.766		1				
H3-TA04RS27-Q-MM01	7799-001-31	0.835		1				
H3-TA04RS27-Q-MM01	7799-001-32	0.781		1			1	LIVER NECROSIS (MISSING LOBE)
H3-TA04RS27-Q-MM01	7799-001-33	0.684	1					
H3-TA04RS27-Q-MM01	7799-001-34	0.767	1					
H3-TA04RS27-Q-MM01	7799-001-35	0.703		1			1	LIVER NECROSIS, CARDIAL EDEMA, GONADAL MAL-DEVELOPMENT
H3-TA04RS27-Q-MM01	7799-001-36	0.708		1				
H3-TA04RS27-Q-MM01	7799-001-37	0.782	1					
H3-TA04RS27-Q-MM01	7799-001-38	0.807		1				
H3-TA04RS27-Q-MM01	7799-001-39	0.646		1				
H3-TA04RS27-Q-MM01	7799-001-40	0.631		1				
H3-TA04RS27-Q-MM01	7799-001-41	0.582		1				
H3-TA04RS27-Q-MM01	7799-001-42	0.756		1				
H3-TA04RS27-Q-MM01	7799-001-43	0.665		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-Q-MM01	7799-001-44	0.689		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-Q-MM01	7799-003-45	0.716		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-Q-MM01	7799-003-46	0.676		1				
H3-TA04RS27-Q-MM01	7799-003-47	0.764	1				1	LIVER NECROSIS, GONADAL ATROPHY
H3-TA04RS27-Q-MM01	7799-003-48	0.989		1				
H3-TA04RS27-Q-MM01	7799-003-49	0.757		1			1	FACIAL DISTORTION, EYE LENS, LIVER NECROSIS

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT ₆ NECROPSY OBSERVATIONS)
H3-TA04RS27-0-MM01	7799-003-50	0.662		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-0-MM01	7799-003-51	0.607						
N								
MEAN WT.								
VAR(S ²)								
SEM								
CV (%)								
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
			31.111	68.889	7.143	32.258	24.444	
H3-TA04RS27-1-MM01	7799-002-01	0.699		1				
H3-TA04RS27-1-MM01	7799-002-02	0.628	1					EYE LENS, LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-03	0.535		1				
H3-TA04RS27-1-MM01	7799-002-04	0.793		1		1	1	
H3-TA04RS27-1-MM01	7799-002-05	0.745		1				
H3-TA04RS27-1-MM01	7799-002-06	0.647	1					
H3-TA04RS27-1-MM01	7799-002-07	0.663		1				
H3-TA04RS27-1-MM01	7799-002-08	0.573	1		1		1	LIVER NECROSIS, GONADAL ATROPHY
H3-TA04RS27-1-MM01	7799-002-09	0.605	1					
H3-TA04RS27-1-MM01	7799-002-10	0.613		1				
H3-TA04RS27-1-MM01	7799-002-11	0.620		1		1	1	HIND LIMB
H3-TA04RS27-1-MM01	7799-002-12	0.533		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-1-MM01	7799-002-13	0.553		1		1	1	NOTOCORDISPINE CURVATURE, LIVER NECROSIS/ATROPHY
H3-TA04RS27-1-MM01	7799-002-14	0.613	1		1		1	FORE LIMB
H3-TA04RS27-1-MM01	7799-002-15	0.633		1		1	1	LIVER AND GONADAL NECROSIS
H3-TA04RS27-1-MM01	7799-002-16	0.519		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-1-MM01	7799-002-17	0.738		1				
H3-TA04RS27-1-MM01	7799-002-18	0.758	1			1	1	LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-19	0.576		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-1-MM01	7799-002-20	0.524		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA04RS27-1-MM01	7799-002-21	0.553		1		1	1	LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-22	0.638		1				
H3-TA04RS27-1-MM01	7799-002-23	0.685		1				
H3-TA04RS27-1-MM01	7799-002-24	0.738	1			1	1	LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-25	0.609		1				
H3-TA04RS27-1-MM01	7799-002-26	0.542	1			1	1	LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-27	0.600		1				
H3-TA04RS27-1-MM01	7799-002-28	0.759		1				
H3-TA04RS27-1-MM01	7799-002-29	0.671		1				
H3-TA04RS27-1-MM01	7799-002-30	0.771		1				
H3-TA04RS27-1-MM01	7799-002-31	0.697	1					
H3-TA04RS27-1-MM01	7799-002-32	0.887		1				
H3-TA04RS27-1-MM01	7799-002-33	0.596	1					
H3-TA04RS27-1-MM01	7799-002-34	0.681		1				
H3-TA04RS27-1-MM01	7799-002-35	0.735	1					
H3-TA04RS27-1-MM01	7799-002-36	0.784		1				
H3-TA04RS27-1-MM01	7799-002-37	0.566		1				
H3-TA04RS27-1-MM01	7799-002-38	0.577		1				
H3-TA04RS27-1-MM01	7799-002-39	0.805		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
								GONADAL NECROSIS

HOUSTONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 27 (18-VP-2) 6.05 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTS/NECROPSY OBSERVATIONS)
H3-TA04RS27-1-MM01	7799-002-40	0.857	1					
H3-TA04RS27-1-MM01	7799-002-41	0.694		1				
H3-TA04RS27-1-MM01	7799-002-42	0.666		1				
H3-TA04RS27-1-MM01	7799-002-43	0.665		1		1	1	MAL-POSITIONED EYES, LIVER AND GONADAL NECROSIS
H3-TA04RS27-1-MM01	7799-002-44	0.791		1				
H3-TA04RS27-1-MM01	7799-002-45	0.779	1					
H3-TA04RS27-1-MM01	7799-002-46	0.676		1				
H3-TA04RS27-1-MM01	7799-002-47	0.735		1		1	1	LIVER LESIONS, GONADAL NECROSIS
H3-TA04RS27-1-MM01	7799-002-48	0.664		1				
H3-TA04RS27-1-MM01	7799-002-49	0.666	1					
H3-TA04RS27-1-MM01	7799-002-50	0.613		1				
H3-TA04RS27-1-MM01	7799-002-51	0.613	1		1		1	CURVED SPINE, MIS-COILED GUT, LIVER NECROSIS
H3-TA04RS27-1-MM01	7799-002-52	0.754		1				
H3-TA04RS27-1-MM01	7799-002-53	0.583		1				
N		53	15	33	3	11	14	
MEAN WT.		0.674						
VAR(S²)		0.008						
SEM		0.012						
CV (%)		13.368						
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)			31.250	68.750	20.000	33.333	29.167	
COMBINED DATA								
COUNT		104	29	64	4	21	25	
MEAN WT.		0.712						
VAR(S²)		0.010						
SEM		0.010						
CV (%)		13.780						
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)			31.183	68.817	13.793	32.813	26.882	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTA/NECROPSY OBSERVATIONS)
H3-TA05RS28-O-MM01	7787-002-01	0.760	1					
H3-TA05RS28-O-MM01	7787-002-02	0.738		1				
H3-TA05RS28-O-MM01	7787-002-03	0.745	1					
H3-TA05RS28-O-MM01	7787-002-04	0.803		1				
H3-TA05RS28-O-MM01	7787-002-05	0.749		1				
H3-TA05RS28-O-MM01	7787-002-06	0.854		1				
H3-TA05RS28-O-MM01	7787-002-07	0.860	1					
H3-TA05RS28-O-MM01	7787-002-08	0.812		1				
H3-TA05RS28-O-MM01	7787-002-09	0.818		1				
H3-TA05RS28-O-MM01	7787-002-10	0.744	1			1	1	HIND LIMB (AXIAL FLEXURE)
H3-TA05RS28-O-MM01	7787-002-11	0.780		1				
H3-TA05RS28-O-MM01	7787-002-12	0.823		1				
H3-TA05RS28-O-MM01	7787-002-13	0.782	1					
H3-TA05RS28-O-MM01	7787-002-14	0.696		1				
H3-TA05RS28-O-MM01	7787-002-15	0.780		1				
H3-TA05RS28-O-MM01	7787-004-16	0.755	1					
H3-TA05RS28-O-MM01	7787-004-17	0.803	1					
H3-TA05RS28-O-MM01	7787-004-18	0.781		1				
H3-TA05RS28-O-MM01	7787-004-19	0.935	1					
H3-TA05RS28-O-MM01	7787-004-20	0.799		1				
H3-TA05RS28-O-MM01	7787-004-21	0.798	1					
H3-TA05RS28-O-MM01	7787-004-22	0.644		1				
H3-TA05RS28-O-MM01	7787-004-23	0.621	1					
H3-TA05RS28-O-MM01	7787-004-24	0.724		1				
H3-TA05RS28-O-MM01	7787-004-25	0.989	1					
H3-TA05RS28-O-MM01	7787-004-26	0.763		1				
H3-TA05RS28-O-MM01	7787-004-27	0.720		1				
H3-TA05RS28-O-MM01	7787-004-28	0.725		1				
H3-TA05RS28-O-MM01	7787-004-29	0.704		1				
H3-TA05RS28-O-MM01	7787-004-30	0.862	1					
H3-TA05RS28-O-MM01	7787-004-31	0.537		1				
H3-TA05RS28-O-MM01	7787-004-32	0.794	1					
H3-TA05RS28-O-MM01	7787-004-33	0.756		1				
H3-TA05RS28-O-MM01	7787-004-34	0.751	1					
H3-TA05RS28-O-MM01	7787-004-35	0.575		1				
H3-TA05RS28-O-MM01	7787-004-36	0.709	1					
H3-TA05RS28-O-MM01	7787-004-37	0.786		1				
H3-TA05RS28-O-MM01	7787-004-38	0.552	1					
H3-TA05RS28-O-MM01	7787-004-39	0.708		1				
H3-TA05RS28-O-MM01	7787-004-40	0.831	1					
H3-TA05RS28-O-MM01	7787-004-41	0.769		1				
H3-TA05RS28-O-MM01	7787-004-42	0.773	1					
H3-TA05RS28-O-MM01	7787-004-43	0.717		1				
H3-TA05RS28-O-MM01	7787-004-44	0.718	1					
H3-TA05RS28-O-MM01	7787-004-45	0.794		1				
H3-TA05RS28-O-MM01	7787-004-46	0.850	1					
H3-TA05RS28-O-MM01	7787-004-47	0.630		1				
H3-TA05RS28-O-MM01	7787-004-48	0.730	1					
H3-TA05RS28-O-MM01	7787-004-49	0.676		1				
					1		1	GONADAL NECROSIS
								A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT ₅ NECROPSY OBSERVATIONS)
H3-TA05RS28-0-MM01	7787-004-50	0.759	1					
H3-TA05RS28-0-MM01	7787-004-51	0.738	1					
H3-TA05RS28-0-MM01	7787-004-52	0.845	1					
H3-TA05RS28-0-MM01	7787-004-53	0.770		1				
H3-TA05RS28-0-MM01	7787-004-54	0.748		1				
H3-TA05RS28-0-MM01	7787-004-55	0.906	1					
H3-TA05RS28-0-MM01	7787-004-56	0.705	1					
<hr/>								
N		56	30	20	2	1	3	
MEAN WT.		0.759						
VAR(S ²)		0.007						
SEM		0.011						
CV (%)		10.527						
<hr/>								
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)			60.000	40.000	6.667	5.000	6.000	
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H3-TA05RS28-1-MM01	7787-003-01	0.543		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA05RS28-1-MM01	7787-003-02	0.919						
H3-TA05RS28-1-MM01	7787-003-03	0.774	1					
H3-TA05RS28-1-MM01	7787-003-04	0.691	1					
H3-TA05RS28-1-MM01	7787-003-05	0.708	1					
H3-TA05RS28-1-MM01	7787-003-06	0.775		1				
H3-TA05RS28-1-MM01	7787-003-07	0.777		1				
H3-TA05RS28-1-MM01	7787-003-08	0.852		1				
H3-TA05RS28-1-MM01	7787-003-09	0.671	1					
H3-TA05RS28-1-MM01	7787-003-10	0.675	1					
H3-TA05RS28-1-MM01	7787-003-11	0.798	1					
H3-TA05RS28-1-MM01	7787-003-12	0.822		1				
H3-TA05RS28-1-MM01	7787-003-13	0.755		1				
H3-TA05RS28-1-MM01	7787-003-14	0.828		1				
H3-TA05RS28-1-MM01	7787-003-15	0.654		1				
H3-TA05RS28-1-MM01	7787-003-16	0.803	1					
H3-TA05RS28-1-MM01	7787-003-17	0.861		1				
H3-TA05RS28-1-MM01	7787-003-18	0.727	1					
H3-TA05RS28-1-MM01	7787-003-19	0.810		1				
H3-TA05RS28-1-MM01	7787-003-20	0.704	1					
H3-TA05RS28-1-MM01	7787-003-21	0.698	1					
H3-TA05RS28-1-MM01	7787-003-22	0.926		1				
H3-TA05RS28-1-MM01	7787-003-23	0.988	1					
H3-TA05RS28-1-MM01	7787-003-24	0.754	1					
H3-TA05RS28-1-MM01	7787-003-25	0.828		1				
H3-TA05RS28-1-MM01	7787-003-26	0.770		1				
H3-TA05RS28-1-MM01	7787-003-27	0.616		1				
H3-TA05RS28-1-MM01	7787-003-28	0.771		1				
H3-TA05RS28-1-MM01	7787-003-29	0.735		1				
H3-TA05RS28-1-MM01	7787-003-30	0.843		1				
H3-TA05RS28-1-MM01	7787-003-31	0.758		1				
H3-TA05RS28-1-MM01	7787-003-32	0.784	1					
H3-TA05RS28-1-MM01	7787-003-33	0.837		1				
H3-TA05RS28-1-MM01	7787-003-34	0.834	1					
<hr/>								
						1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED LIVER LESIONS

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 28 (23b-VP-1) 0.19 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTs/NECROPSY OBSERVATIONS)
H3-TA05RS28-1-MM01	7787-003-35	0.793	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED NOTOCHORD, LIVER LESIONS A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA05RS28-1-MM01	7787-003-36	0.816		1		1	1	
H3-TA05RS28-1-MM01	7787-003-37	0.775						
H3-TA05RS28-1-MM01	7787-003-38	0.477		1				
H3-TA05RS28-1-MM01	7787-003-39	0.717		1				
H3-TA05RS28-1-MM01	7787-003-40	0.912		1				
H3-TA05RS28-1-MM01	7787-003-41	0.777	1					
H3-TA05RS28-1-MM01	7787-003-42	0.725		1				
H3-TA05RS28-1-MM01	7787-003-43	0.801		1				
H3-TA05RS28-1-MM01	7787-003-44	0.728		1				
H3-TA05RS28-1-MM01	7787-003-45	0.848	1					
H3-TA05RS28-1-MM01	7787-003-46	0.849		1				
H3-TA05RS28-1-MM01	7787-003-47	0.834		1				
H3-TA05RS28-1-MM01	7787-003-48	0.791		1				
H3-TA05RS28-1-MM01	7787-003-49	0.893		1				
H3-TA05RS28-1-MM01	7787-003-50	0.902		1				
H3-TA05RS28-1-MM01	7787-003-51	0.776		1				
H3-TA05RS28-1-MM01	7787-003-52	0.863	1					
H3-TA05RS28-1-MM01	7787-003-53	0.830	1					
H3-TA05RS28-1-MM01	7787-003-54	0.863		1				
H3-TA05RS28-1-MM01	7787-003-55	0.909						
H3-TA05RS28-1-MM01	7787-003-56	0.844	1					
H3-TA05RS28-1-MM01	7787-003-57	0.787	1					
H3-TA05RS28-1-MM01	7787-003-58	0.823	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
N	58		21	31	0	2	2	
MEAN WT.	0.787							
VAR(S ²)	0.008							
SEM	0.012							
CV (%)	11.925							
SEX RATIO (%)			40.385	59.615	0.000	6.452	3.846	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT	114		51	51	2	3	5	
MEAN WT.	0.773							
VAR(S ²)	0.008							
SEM	0.008							
CV (%)	11.556							
SEX RATIO (%)			50.000	50.000	3.922	5.882	4.902	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 29 (23b-VP-2) 0.11 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTA ₅ NECROPSY OBSERVATIONS)
H3-TA05RS29-0-MM01	7803-001-01	0.814		1				
H3-TA05RS29-0-MM01	7803-001-02	1.046		1				
H3-TA05RS29-0-MM01	7803-002-03	0.771		1				
H3-TA05RS29-0-MM01	7803-002-04	0.935	1					
H3-TA05RS29-0-MM01	7803-002-05	0.891	1					
H3-TA05RS29-0-MM01	7803-002-06	0.895		1				
H3-TA05RS29-0-MM01	7803-002-07	0.763		1				
H3-TA05RS29-0-MM01	7803-002-08	0.545		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA05RS29-0-MM01	7803-002-09	0.925	1					
H3-TA05RS29-0-MM01	7803-002-10	0.914	1					
H3-TA05RS29-0-MM01	7803-002-11	0.884		1				
H3-TA05RS29-0-MM01	7803-002-12	0.453		1				
H3-TA05RS29-0-MM01	7803-002-13	0.913	1					
H3-TA05RS29-0-MM01	7803-002-14	0.865		1				
H3-TA05RS29-0-MM01	7803-002-15	0.727		1				
H3-TA05RS29-0-MM01	7803-002-16	0.860		1				
H3-TA05RS29-0-MM01	7803-002-17	0.828		1				
H3-TA05RS29-0-MM01	7803-002-18	0.824	1					
H3-TA05RS29-0-MM01	7803-002-19	0.896		1				
H3-TA05RS29-0-MM01	7803-002-20	0.827		1				
H3-TA05RS29-0-MM01	7803-002-21	0.744		1				
H3-TA05RS29-0-MM01	7803-002-22	0.949	1					
H3-TA05RS29-0-MM01	7803-002-23	0.736	1					
H3-TA05RS29-0-MM01	7803-002-24	0.823		1			1	LIVER LESIONS
H3-TA05RS29-0-MM01	7803-002-25	0.777	1					
H3-TA05RS29-0-MM01	7803-002-26	0.816	1					
H3-TA05RS29-0-MM01	7803-002-27	0.917		1				
H3-TA05RS29-0-MM01	7803-002-28	0.963		1			1	EYE LENS
H3-TA05RS29-0-MM01	7803-002-29	0.771	1					
H3-TA05RS29-0-MM01	7803-003-30	0.828		1				
H3-TA05RS29-0-MM01	7803-003-31	0.920		1				
H3-TA05RS29-0-MM01	7803-003-32	0.904		1				
H3-TA05RS29-0-MM01	7803-003-33	0.959		1				
H3-TA05RS29-0-MM01	7803-003-34	0.906		1				
H3-TA05RS29-0-MM01	7803-003-35	0.962	1					
H3-TA05RS29-0-MM01	7803-003-36	1.001		1				
H3-TA05RS29-0-MM01	7803-003-37	0.800		1				
H3-TA05RS29-0-MM01	7803-003-38	0.984	1					
H3-TA05RS29-0-MM01	7803-003-39	1.142	1					
H3-TA05RS29-0-MM01	7803-003-40	0.978		1				
H3-TA05RS29-0-MM01	7803-003-41	1.342		1				
H3-TA05RS29-0-MM01	7803-003-42	0.876		1				
H3-TA05RS29-0-MM01	7803-003-43	0.831		1				
H3-TA05RS29-0-MM01	7803-003-44	1.245		1				
H3-TA05RS29-0-MM01	7803-003-45	1.058	1					
H3-TA05RS29-0-MM01	7803-003-46	1.019		1				
H3-TA05RS29-0-MM01	7803-003-47	1.154	1				1	LIVER LESIONS
H3-TA05RS29-0-MM01	7803-003-48	0.881	1					
H3-TA05RS29-0-MM01	7803-003-49	0.821		1				

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 29 (23b-VP-2) 0.11 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTS/NECROPSY OBSERVATIONS)
H3-TA05RS29-0-MM01	7803-003-50	1.043	1	1				
H3-TA05RS29-0-MM01	7803-003-51	1.013						
N		51	18	28	1	2	3	
MEAN WT.		0.897						
VAR(S ²)		0.022						
SEM		0.021						
CV (%)		16.631						
SEX RATIO (%)			39.130	60.870	5.556	7.143	6.622	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
H3-TA05RS29-1-MM01	7803-004-01	0.912						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA05RS29-1-MM01	7803-004-02	0.919	1					
H3-TA05RS29-1-MM01	7803-004-03	0.803	1					
H3-TA05RS29-1-MM01	7803-005-04	1.033						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA05RS29-1-MM01	7803-006-05	0.815		1				
H3-TA05RS29-1-MM01	7803-007-06	0.855		1				
H3-TA05RS29-1-MM01	7803-007-07	0.659		1				
N		7	2	3	0	0	0	
MEAN WT.		0.828						
VAR(S ²)		0.019						
SEM		0.053						
CV (%)		16.839						
SEX RATIO (%)			40.000	60.000	0.000	0.000	0.000	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT		58	20	31	1	2	3	
MEAN WT.		0.888						
VAR(S ²)		0.022						
SEM		0.020						
CV (%)		16.720						
SEX RATIO (%)			39.216	60.784	5.000	6.452	5.882	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTA% NECROPSY OBSERVATIONS)
H3-TA08RS30-0-MM01	7800-002-01	0.399						NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-02	0.746						NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-03	0.871						NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-04	0.738						NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-05	0.708						NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-06							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-07							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-08							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-09							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-10							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-11							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-12							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-13							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-14							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-15							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-16							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-17							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-18							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-19							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-20							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-21							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-22							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-23							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-24							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-25							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-26							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-27							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-28							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-29							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-30							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-31							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-32							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-33							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-34							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-35							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-36							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-37							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-002-38							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-39							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-40							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-41							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-42							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-43							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-44							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-45							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-46							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-47							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-48							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-49							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-50							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-51							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-52							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-53							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-54							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.
H3-TA08RS30-0-MM01	7800-003-55							NUMBER SKIPPED. SPECIMEN NON-EXISTENT.

HOUSTONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTS/NECROPSY OBSERVATIONS)
H3-TA08RS30-0-MM01	7800-004-56	0.961	1	1		1	1	MIS-COILED GUT, LIVER TUMOR, GONADAL NECROSIS
H3-TA08RS30-0-MM01	7800-004-57	0.847						
H3-TA08RS30-0-MM01	7800-004-58	0.901	1	1		1	1	MIS-COILED GUT, LIVER AND GONADAL NECROSIS
H3-TA08RS30-0-MM01	7800-004-59	0.538						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-0-MM01	7800-004-60	1.022						
H3-TA08RS30-0-MM01	7800-004-61	0.855						
H3-TA08RS30-0-MM01	7800-004-62	0.656	1	1		1	1	GONADAL NECROSIS
H3-TA08RS30-0-MM01	7800-004-63	0.880				1	1	CURVED SPINE, GONADAL NECROSIS
H3-TA08RS30-0-MM01	7800-004-64	0.925				1	1	LIVER NECROSIS
H3-TA08RS30-0-MM01	7800-004-65	0.920						
H3-TA08RS30-0-MM01	7800-004-66	1.015	1					
H3-TA08RS30-0-MM01	7800-004-67	0.779						
H3-TA08RS30-0-MM01	7800-004-68	0.901	1	1		1	1	EYE LENS, GONADAL NECROSIS

N 53 8 40 2 18 20
MEAN WT. 0.852
VAR(S²) 0.021
SEM 0.020
CV (%) 16.509

SEX RATIO (%)
ABNORMAL BY SEX (%)
TOTAL ABNORMAL (%)

16.667 83.333 25.000 45.000 41.667

H3-TA08RS30-1-MM01	7800-005-01	0.923		1		1	1	LIVER MOTTLED WITH LESIONS, GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-005-02	0.775		1				
H3-TA08RS30-1-MM01	7800-005-03	0.527		1				
H3-TA08RS30-1-MM01	7800-005-04	0.742			1		1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-005-05	0.892	1					EYE LENS, LIVER LESIONS
H3-TA08RS30-1-MM01	7800-006-06	0.890	1			1	1	EYE, HEMORRHAGE, LIVER LESIONS
H3-TA08RS30-1-MM01	7800-006-07	0.446		1		1	1	GONADAL MAL-POSITION AND NECROSIS
H3-TA08RS30-1-MM01	7800-006-08	0.544		1				
H3-TA08RS30-1-MM01	7800-006-09	0.647		1				
H3-TA08RS30-1-MM01	7800-006-10	0.890		1				
H3-TA08RS30-1-MM01	7800-006-11	0.874	1					
H3-TA08RS30-1-MM01	7800-006-12	0.588	1			1	1	
H3-TA08RS30-1-MM01	7800-006-13	0.489	1			1	1	
H3-TA08RS30-1-MM01	7800-006-14	0.715		1		1	1	LIVER NECROSIS, MIS-COILED GUT
H3-TA08RS30-1-MM01	7800-006-15	0.744		1		1	1	
H3-TA08RS30-1-MM01	7800-006-16	0.453		1		1	1	VISCERAL EDEMA, HEMORRHAGE, GONADAL LIVER, AND HEART NECROSIS
H3-TA08RS30-1-MM01	7800-006-17	0.547		1		1	1	EYE, LIVER AND GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-18	0.505		1				
H3-TA08RS30-1-MM01	7800-006-19	0.514		1				
H3-TA08RS30-1-MM01	7800-006-20	0.506		1		1	1	
H3-TA08RS30-1-MM01	7800-006-21	0.780		1				
H3-TA08RS30-1-MM01	7800-006-22	0.381						
H3-TA08RS30-1-MM01	7800-006-23	0.940	1			1	1	MIS-COILED GUT, EDEMA, HEMORRHAGE, LIVER TUMOR AND LESIONS
H3-TA08RS30-1-MM01	7800-006-24	0.827		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-006-25	1.106		1		1	1	LIVER AND GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-26	0.494		1		1	1	LIVER AND HEART NECROSIS, MIS-COILED GUT
H3-TA08RS30-1-MM01	7800-006-27	0.427		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-006-28	1.055	1					

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 30 (38-VP-1) 28.0 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTA) NECROPSY OBSERVATIONS)
H3-TA08RS30-1-MM01	7800-006-29	0.758		1		1	1	MOTTLED LIVER, GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-30	0.837		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-006-31	0.516						MOTTLED LIVER, GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-32	0.905	1		1		1	
H3-TA08RS30-1-MM01	7800-006-33	0.999		1		1	1	LIVER MISSING LOBE, GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-34	1.013		1		1	1	
H3-TA08RS30-1-MM01	7800-006-35	1.040		1		1	1	
H3-TA08RS30-1-MM01	7800-006-36	0.780		1		1	1	
H3-TA08RS30-1-MM01	7800-006-37	1.038		1		1	1	SPINE, LIVER NECROSIS (CRACKED)
H3-TA08RS30-1-MM01	7800-006-38	1.040		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-006-39	0.437						
H3-TA08RS30-1-MM01	7800-006-40	1.057	1					
H3-TA08RS30-1-MM01	7800-006-41	1.021		1		1	1	LIVER NECROSIS, MIS-COILED GUT
H3-TA08RS30-1-MM01	7800-006-42	0.732		1		1	1	LIVER AND GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-43	0.521		1		1	1	
H3-TA08RS30-1-MM01	7800-006-44	0.524		1		1	1	
H3-TA08RS30-1-MM01	7800-006-45	0.520		1		1	1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS30-1-MM01	7800-006-46	0.415						LIVER SPOTS
H3-TA08RS30-1-MM01	7800-006-47	0.673		1		1	1	
H3-TA08RS30-1-MM01	7800-006-48	0.624		1		1	1	
H3-TA08RS30-1-MM01	7800-006-49	0.555		1		1	1	
H3-TA08RS30-1-MM01	7800-006-50	1.008		1		1	1	
H3-TA08RS30-1-MM01	7800-006-51	1.031		1		1	1	LIVER AND GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-52	0.446		1		1	1	DISTENDED GUT, GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-53	0.450		1		1	1	
H3-TA08RS30-1-MM01	7800-006-54	0.661	1					
H3-TA08RS30-1-MM01	7800-006-55	0.795		1		1	1	LIVER AND GONADAL NECROSIS
H3-TA08RS30-1-MM01	7800-006-56	0.761		1		1	1	EDEMA, MIS-COILED GUT, LIVER NECROSIS
H3-TA08RS30-1-MM01	7800-006-57	0.516		1		1	1	
H3-TA08RS30-1-MM01	7800-006-58	0.854	1					
SEX RATIO (%)			23.077	76.923	16.867	47.500	40.385	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT		111	20	80	4	37	41	
MEAN WT.		0.795						
VAR(S ²)		0.037						
SEM		0.018						
CV (%)		24.087						
SEX RATIO (%)			20.000	80.000	20.000	46.250	41.000	
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT ₆ NECROPSY OBSERVATIONS)
H3-TA08RS32-0-MM01	7801-001-01	0.663		1				
H3-TA08RS32-0-MM01	7801-001-02	0.639		1				
H3-TA08RS32-0-MM01	7801-001-03	0.677	1					
H3-TA08RS32-0-MM01	7801-001-04	0.680	1					
H3-TA08RS32-0-MM01	7801-001-05	0.703		1				
H3-TA08RS32-0-MM01	7801-001-06	0.664		1				
H3-TA08RS32-0-MM01	7801-001-07	0.611	1					
H3-TA08RS32-0-MM01	7801-001-08	0.819	1					
H3-TA08RS32-0-MM01	7801-001-09	0.710		1				
H3-TA08RS32-0-MM01	7801-001-10	0.743		1				
H3-TA08RS32-0-MM01	7801-001-11	0.685	1					
H3-TA08RS32-0-MM01	7801-001-12	0.465	1					
H3-TA08RS32-0-MM01	7801-001-13	0.679	1					
H3-TA08RS32-0-MM01	7801-001-14	0.692		1				
H3-TA08RS32-0-MM01	7801-001-15	0.576		1				
H3-TA08RS32-0-MM01	7801-001-16	0.725		1				
H3-TA08RS32-0-MM01	7801-001-17	0.715		1				
H3-TA08RS32-0-MM01	7801-001-18	0.719		1				
H3-TA08RS32-0-MM01	7801-001-19	0.700	1					
H3-TA08RS32-0-MM01	7801-001-20	0.763		1				
H3-TA08RS32-0-MM01	7801-001-21	0.513	1				1	STUNTED GROWTH
H3-TA08RS32-0-MM01	7801-001-22	0.163		1				
H3-TA08RS32-0-MM01	7801-001-23	0.714		1				
H3-TA08RS32-0-MM01	7801-001-24	0.632		1				
H3-TA08RS32-0-MM01	7801-001-25	0.606	1		1		1	MIS-COILED GUT
H3-TA08RS32-0-MM01	7801-001-26	0.663		1				
H3-TA08RS32-0-MM01	7801-001-27	0.614		1				
H3-TA08RS32-0-MM01	7801-001-28	0.666	1					
H3-TA08RS32-0-MM01	7801-001-29	0.686		1				
H3-TA08RS32-0-MM01	7801-001-30	0.550		1				
H3-TA08RS32-0-MM01	7801-001-31	0.678		1				
H3-TA08RS32-0-MM01	7801-001-32	0.583		1				
H3-TA08RS32-0-MM01	7801-001-33	0.715		1				
H3-TA08RS32-0-MM01	7801-001-34	0.623	1					
H3-TA08RS32-0-MM01	7801-001-35	0.630	1					
H3-TA08RS32-0-MM01	7801-001-36	0.586		1				
H3-TA08RS32-0-MM01	7801-001-37	0.594	1					
H3-TA08RS32-0-MM01	7801-001-38	0.616		1				
H3-TA08RS32-0-MM01	7801-001-39	0.543		1				
H3-TA08RS32-0-MM01	7801-001-40	0.617		1				
H3-TA08RS32-0-MM01	7801-003-41	0.498		1			1	EYE LENS
H3-TA08RS32-0-MM01	7801-003-42	0.581	1		1			
H3-TA08RS32-0-MM01	7801-003-43	0.553		1				
H3-TA08RS32-0-MM01	7801-003-44	0.515	1					
H3-TA08RS32-0-MM01	7801-003-45	0.498	1					
H3-TA08RS32-0-MM01	7801-003-46	0.522	1					
H3-TA08RS32-0-MM01	7801-003-47	0.514		1				
H3-TA08RS32-0-MM01	7801-003-48	0.488		1			1	EYE LENS
H3-TA08RS32-0-MM01	7801-003-49	0.578		1				

A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALITIES (DELT&NECROPSY OBSERVATIONS)
H3-TA08RS32-0-MM01	7801-003-50	0.578	1					
H3-TA08RS32-0-MM01	7801-003-51	0.614	1					
H3-TA08RS32-0-MM01	7801-003-52	0.587		1				
H3-TA08RS32-0-MM01	7801-003-53	0.572	1					
H3-TA08RS32-0-MM01	7801-003-54	0.577	1					
H3-TA08RS32-0-MM01	7801-003-55	0.489						
H3-TA08RS32-0-MM01	7801-003-56	0.515		1				
H3-TA08RS32-0-MM01	7801-003-57	0.619		1				
H3-TA08RS32-0-MM01	7801-003-58	0.564		1		1	1	EYE LENS, HEMORRHAGE, LIVER LESIONS/TUMOR
H3-TA08RS32-0-MM01	7801-003-59	0.593		1				
H3-TA08RS32-0-MM01	7801-003-60	0.499	1		1		1	HEMORRHAGE, MALFORMED MOUTH
N		60	24	32	3	3	6	
MEAN WT.		0.610						
VAR(S ²)		0.010						
SEM		0.013						
CV (%)		16.310						
SEX RATIO (%)			42.857	57.143				
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)					12.500	9.375	10.714	

H3-TA08RS32-1-MM01	7801-002-01	0.548		1					
H3-TA08RS32-1-MM01	7801-002-02	0.513		1					
H3-TA08RS32-1-MM01	7801-002-03	0.509		1					
H3-TA08RS32-1-MM01	7801-002-04	0.572	1						
H3-TA08RS32-1-MM01	7801-002-05	0.565		1					
H3-TA08RS32-1-MM01	7801-002-06	0.556	1						
H3-TA08RS32-1-MM01	7801-002-07	0.553	1						
H3-TA08RS32-1-MM01	7801-002-08	0.519	1						
H3-TA08RS32-1-MM01	7801-002-09	0.519		1					
H3-TA08RS32-1-MM01	7801-002-10	0.582	1						
H3-TA08RS32-1-MM01	7801-002-11	0.570							
H3-TA08RS32-1-MM01	7801-002-12	0.580							
H3-TA08RS32-1-MM01	7801-002-13	0.541	1						
H3-TA08RS32-1-MM01	7801-002-14	0.551		1					
H3-TA08RS32-1-MM01	7801-002-15	0.670		1					
H3-TA08RS32-1-MM01	7801-002-16	0.517	1						
H3-TA08RS32-1-MM01	7801-002-17	0.733		1					
H3-TA08RS32-1-MM01	7801-002-18	0.568		1					
H3-TA08RS32-1-MM01	7801-002-19	0.648	1						
H3-TA08RS32-1-MM01	7801-002-20	0.508	1						
H3-TA08RS32-1-MM01	7801-002-21	0.612		1					
H3-TA08RS32-1-MM01	7801-002-22	0.595		1					
H3-TA08RS32-1-MM01	7801-002-23	0.540	1						
H3-TA08RS32-1-MM01	7801-002-24	0.746	1		1		1	EYE LENS	
H3-TA08RS32-1-MM01	7801-002-25	0.616		1					
H3-TA08RS32-1-MM01	7801-002-26	0.688	1						
H3-TA08RS32-1-MM01	7801-002-27	0.470		1					
H3-TA08RS32-1-MM01	7801-002-28	0.843		1					
H3-TA08RS32-1-MM01	7801-002-29	0.965		1					
H3-TA08RS32-1-MM01	7801-002-30	0.624	1						

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 32 (46-VP-1) 0.5 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT&NECROPSY OBSERVATIONS)
H3-TA08RS32-1-MM01	7801-002-31	0.695	1					POSSIBLE ENLARGED HEART, NO PATHOLOGY
H3-TA08RS32-1-MM01	7801-002-32	0.658	1					
H3-TA08RS32-1-MM01	7801-002-33	0.688	1					
H3-TA08RS32-1-MM01	7801-002-34	0.574		1		1	1	LIVER LESIONS, MALFORMED FACE
H3-TA08RS32-1-MM01	7801-002-35	0.565		1				
H3-TA08RS32-1-MM01	7801-002-36	0.684	1					
H3-TA08RS32-1-MM01	7801-002-37	0.674	1					
H3-TA08RS32-1-MM01	7801-002-38	0.679		1				
H3-TA08RS32-1-MM01	7801-002-39	0.571	1					
H3-TA08RS32-1-MM01	7801-002-40	0.566		1				
H3-TA08RS32-1-MM01	7801-002-41	0.692		1				
H3-TA08RS32-1-MM01	7801-002-42	0.726		1				
H3-TA08RS32-1-MM01	7801-002-43	0.639		1				SPINE
H3-TA08RS32-1-MM01	7801-002-44	0.682	1					
H3-TA08RS32-1-MM01	7801-002-45	0.706	1					
H3-TA08RS32-1-MM01	7801-002-46	0.601		1				
H3-TA08RS32-1-MM01	7801-002-47	0.513	1					
H3-TA08RS32-1-MM01	7801-002-48	0.553	1					
H3-TA08RS32-1-MM01	7801-002-49	0.722		1		1	1	
H3-TA08RS32-1-MM01	7801-002-50	0.570	1					
H3-TA08RS32-1-MM01	7801-002-51	0.615	1					
H3-TA08RS32-1-MM01	7801-002-52	0.683						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H3-TA08RS32-1-MM01	7801-002-53	0.671						
H3-TA08RS32-1-MM01	7801-002-54	0.694						
H3-TA08RS32-1-MM01	7801-002-55	0.626						
SEX RATIO (%)								
N			25	24	1	2	3	
MEAN WT.			55					
VAR(S ²)			0.614					
SEM			0.008					
CV (%)			0.010					
			12.548					
SEX RATIO (%)								
ABNORMAL BY SEX (%)			51.020	48.980	4.000	8.333	6.122	
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT			49	56	4	5	9	
MEAN WT.			115					
VAR(S ²)			0.612					
SEM			0.008					
CV (%)			0.008					
			14.561					
SEX RATIO (%)								
ABNORMAL BY SEX (%)			46.667	53.333	8.163	8.929	8.571	
TOTAL ABNORMAL (%)								

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 41 (WML-1) 0.007 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT#NECROPSY OBSERVATIONS)
H9-TAWLRS41-O-MM01	7817-001-01	0.595	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-002-02	0.341		1				
H9-TAWLRS41-O-MM01	7817-002-03	0.428						
H9-TAWLRS41-O-MM01	7817-002-04	0.461	1					
H9-TAWLRS41-O-MM01	7817-002-05	0.374		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-002-06	0.319		1				
H9-TAWLRS41-O-MM01	7817-002-07	0.315		1				
H9-TAWLRS41-O-MM01	7817-002-08	0.332	1					
H9-TAWLRS41-O-MM01	7817-002-09	0.287						A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-002-10	0.373		1				
H9-TAWLRS41-O-MM01	7817-002-11	0.269	1					
H9-TAWLRS41-O-MM01	7817-002-12	0.374		1				
H9-TAWLRS41-O-MM01	7817-002-13	0.408		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-003-14	0.387		1				
H9-TAWLRS41-O-MM01	7817-003-15	0.375	1					
H9-TAWLRS41-O-MM01	7817-003-16	0.407		1				
H9-TAWLRS41-O-MM01	7817-003-17	0.306		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-003-18	0.350		1				
H9-TAWLRS41-O-MM01	7817-003-19	0.280	1					
H9-TAWLRS41-O-MM01	7817-003-20	0.483		1				
H9-TAWLRS41-O-MM01	7817-003-21	0.531	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-003-22	0.301		1				
H9-TAWLRS41-O-MM01	7817-003-23	0.403		1				
H9-TAWLRS41-O-MM01	7817-004-24	0.365	1					
H9-TAWLRS41-O-MM01	7817-004-25	0.431		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-004-26	0.331	1					
H9-TAWLRS41-O-MM01	7817-004-27	0.466		1				
H9-TAWLRS41-O-MM01	7817-004-28	0.461		1				
H9-TAWLRS41-O-MM01	7817-004-29	0.484		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-004-30	0.487		1				
H9-TAWLRS41-O-MM01	7817-004-31	0.489	1					
H9-TAWLRS41-O-MM01	7817-004-32	0.474		1				
H9-TAWLRS41-O-MM01	7817-004-33	0.363		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-004-34	0.390		1				
H9-TAWLRS41-O-MM01	7817-004-35	0.511	1					
H9-TAWLRS41-O-MM01	7817-005-36	0.369		1				
H9-TAWLRS41-O-MM01	7817-006-37	0.525		1				A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H9-TAWLRS41-O-MM01	7817-007-38	0.381	1					
H9-TAWLRS41-O-MM01	7817-008-39	0.416		1				
N	39		13	21	0	0	0	
MEAN WT.	0.403							
VAR(S ²)	0.006							
SEM	0.012							
CV (%)	19.060							
SEX RATIO (%)								
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)			38.235	61.765	0.000	0.000	0.000	

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 43 (WWL-3) 0.011 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELT# NECROPSY OBSERVATIONS)
H0-TAWL RS43-0-MM01	7866-001-01	0.355		1			1	A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H0-TAWL RS43-0-MM01	7866-003-02	0.246		1			1	
H0-TAWL RS43-0-MM01	7866-001-03	0.261						
H0-TAWL RS43-0-MM01	7866-001-04	0.254	1				1	
H0-TAWL RS43-0-MM01	7866-001-05	0.338		1			1	
H0-TAWL RS43-0-MM01	7866-001-06	0.331		1			1	
H0-TAWL RS43-0-MM01	7866-001-07	0.355		1			1	
H0-TAWL RS43-0-MM01	7866-001-08	0.260	1				1	
H0-TAWL RS43-0-MM01	7866-001-09	0.330	1				1	
H0-TAWL RS43-0-MM01	7866-001-10	0.233	1				1	
H0-TAWL RS43-0-MM01	7866-001-11	0.300	1				1	
H0-TAWL RS43-0-MM01	7866-001-12	0.281	1				1	
H0-TAWL RS43-0-MM01	7866-002-13	0.378	1				1	
H0-TAWL RS43-0-MM01	7866-002-14	0.366	1				1	
H0-TAWL RS43-0-MM01	7866-002-15	0.286	1				1	
H0-TAWL RS43-0-MM01	7866-003-16	0.278	1				1	
H0-TAWL RS43-0-MM01	7866-003-17	0.269	1				1	
H0-TAWL RS43-0-MM01	7866-003-18	0.297	1				1	
H0-TAWL RS43-0-MM01	7866-003-19	0.310	1				1	
H0-TAWL RS43-0-MM01	7866-004-20	0.233	1				1	
H0-TAWL RS43-0-MM01	7866-004-21	0.285	1				1	
H0-TAWL RS43-0-MM01	7866-004-22	0.404	1				1	
H0-TAWL RS43-0-MM01	7866-004-23	0.301	1				1	
H0-TAWL RS43-0-MM01	7866-004-24	0.286	1				1	
H0-TAWL RS43-0-MM01	7866-004-25	0.281	1				1	
H0-TAWL RS43-0-MM01	7866-004-26	0.255	1				1	
H0-TAWL RS43-0-MM01	7866-004-27	0.321	1				1	
H0-TAWL RS43-0-MM01	7866-004-28	0.282	1				1	
H0-TAWL RS43-0-MM01	7866-005-29	0.262	1				1	
H0-TAWL RS43-0-MM01	7866-005-30	0.313	1				1	
H0-TAWL RS43-0-MM01	7866-005-31	0.285	1				1	
H0-TAWL RS43-0-MM01	7866-005-32	0.271	1				1	
H0-TAWL RS43-0-MM01	7866-005-33	0.269	1				1	
H0-TAWL RS43-0-MM01	7866-005-34	0.241	1				1	
H0-TAWL RS43-0-MM01	7866-005-35	0.330	1				1	
H0-TAWL RS43-0-MM01	7866-005-36	0.270	1				1	
H0-TAWL RS43-0-MM01	7866-005-37	0.266	1				1	
H0-TAWL RS43-0-MM01	7866-005-38	0.312	1				1	
H0-TAWL RS43-0-MM01	7866-005-39	0.280	1				1	
H0-TAWL RS43-0-MM01	7866-006-40	0.445	1				1	
H0-TAWL RS43-0-MM01	7866-006-41	0.364	1				1	
H0-TAWL RS43-0-MM01	7866-006-42	0.378	1				1	
H0-TAWL RS43-0-MM01	7866-007-43	0.313					1	
H0-TAWL RS43-0-MM01	7866-007-44	0.260					1	
H0-TAWL RS43-0-MM01	7866-007-45	0.275					1	
H0-TAWL RS43-0-MM01	7866-007-46	0.305	1				1	
H0-TAWL RS43-0-MM01	7866-007-47	0.378	1				1	
H0-TAWL RS43-0-MM01	7866-007-48	0.241	1				1	
H0-TAWL RS43-0-MM01	7866-007-49	0.282	1				1	
N	49		22	22	0	1	1	
MEAN WT.	0.303							
VARIES ²	0.002							
SEM	0.007							
CV (%)	15.841							
SEX RATIO (%)		50.000	50.000	0.000	4.545			
ABNORMAL BY SEX (%)								
TOTAL ABNORMAL (%)								2.273

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITE 43 (WHL-3) 0.011 mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN No.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALS (DELT & NECROPSY OBSERVATIONS)
H8-TAWLRS43-1-MM01	7866-008-01	0.285	1					A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED A=ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-1-MM01	7866-008-02	0.359						
H8-TAWLRS43-1-MM01	7866-008-03	0.264						
H8-TAWLRS43-1-MM01	7866-008-04	0.473	1					
H8-TAWLRS43-1-MM01	7866-008-05	0.216		1				
H8-TAWLRS43-1-MM01	7866-008-06	0.307	1					
H8-TAWLRS43-1-MM01	7866-008-07	0.266						
H8-TAWLRS43-1-MM01	7866-008-08	0.226	1					
H8-TAWLRS43-1-MM01	7866-008-09	0.266		1				
H8-TAWLRS43-1-MM01	7866-008-10	0.266		1				
H8-TAWLRS43-1-MM01	7866-008-11	0.240	1					
H8-TAWLRS43-1-MM01	7866-008-12	0.164		1				
H8-TAWLRS43-1-MM01	7866-008-13	0.302		1				
H8-TAWLRS43-1-MM01	7866-008-14	0.270	1					
H8-TAWLRS43-1-MM01	7866-008-15	0.252		1				
H8-TAWLRS43-1-MM01	7866-008-16	0.275		1				
H8-TAWLRS43-1-MM01	7866-008-17	0.244		1				
H8-TAWLRS43-1-MM01	7866-008-18	0.285		1				
H8-TAWLRS43-1-MM01	7866-009-19	0.340	1					
H8-TAWLRS43-1-MM01	7866-009-20	0.314		1				
H8-TAWLRS43-1-MM01	7866-009-21	0.345	1					
H8-TAWLRS43-1-MM01	7866-009-22	0.246		1				
H8-TAWLRS43-1-MM01	7866-009-23	0.273		1				
H8-TAWLRS43-1-MM01	7866-009-24	0.166	1					
H8-TAWLRS43-1-MM01	7866-009-25	0.255		1				
H8-TAWLRS43-1-MM01	7866-009-26	0.363		1	1	1	1	EYE LENS, LIVER NECROSIS
SEX RATIO (%)								
ABNORMAL BY SEX (%)			50.000	50.000	0.000	8.333	4.167	
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT			26	12	0	1	1	
MEAN WT.			0.285					
VAR(S²)			0.004					
SEM			0.012					
CV (%)			21.880					
SEX RATIO (%)								
ABNORMAL BY SEX (%)			75	34	0	2	2	
TOTAL ABNORMAL (%)								
COMBINED DATA								
COUNT			75	34	0	2	2	
MEAN WT.			0.287					
VAR(S²)			0.003					
SEM			0.009					
CV (%)			18.098					
SEX RATIO (%)								
ABNORMAL BY SEX (%)				50.000	0.000	5.882	2.041	
TOTAL ABNORMAL (%)								

HOUSTON RIVER PROJECT
VERNAL POOL STUDY 2000
PHASE III METAMORPH DATA
SITES #1, 43 (WML-1, 3) ND (0.01) mg/kg SEDIMENT PCB

WESTON SAMPLE NUMBER	FEL SAMPLE- SPECIMEN NO.	SPECIMEN WEIGHT (g)	NO. MALES	NUMBER FEMALES	ABNORMAL MALES	ABNORMAL FEMALES	NUMBER ABNORMAL	ABNORMALIES (DELTA/NECROPSY OBSERVATIONS)
H8-TAWLRS41-QMM01	7817-001-01	0.595						ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-002-02	0.341	1					
H8-TAWLRS41-QMM01	7817-002-03	0.428		1				
H8-TAWLRS41-QMM01	7817-002-04	0.461	1					
H8-TAWLRS41-QMM01	7817-002-05	0.374		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-002-06	0.319		1				
H8-TAWLRS41-QMM01	7817-002-07	0.315		1				
H8-TAWLRS41-QMM01	7817-002-08	0.332	1					
H8-TAWLRS41-QMM01	7817-002-09	0.297		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-002-10	0.373		1				
H8-TAWLRS41-QMM01	7817-002-11	0.269	1					
H8-TAWLRS41-QMM01	7817-002-12	0.374		1				
H8-TAWLRS41-QMM01	7817-003-13	0.406		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-003-14	0.397		1				
H8-TAWLRS41-QMM01	7817-003-15	0.375	1					
H8-TAWLRS41-QMM01	7817-003-16	0.407		1				
H8-TAWLRS41-QMM01	7817-003-17	0.306		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-003-18	0.390		1				
H8-TAWLRS41-QMM01	7817-003-19	0.260		1				
H8-TAWLRS41-QMM01	7817-003-20	0.483	1					
H8-TAWLRS41-QMM01	7817-003-21	0.531		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-003-22	0.301	1					
H8-TAWLRS41-QMM01	7817-003-23	0.403		1				
H8-TAWLRS41-QMM01	7817-004-24	0.365	1					
H8-TAWLRS41-QMM01	7817-004-25	0.431		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-004-26	0.331		1				
H8-TAWLRS41-QMM01	7817-004-27	0.466		1				
H8-TAWLRS41-QMM01	7817-004-28	0.461		1				
H8-TAWLRS41-QMM01	7817-004-29	0.464		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-004-30	0.487		1				
H8-TAWLRS41-QMM01	7817-004-31	0.459	1					
H8-TAWLRS41-QMM01	7817-004-32	0.474		1				
H8-TAWLRS41-QMM01	7817-004-33	0.363		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-004-34	0.390		1				
H8-TAWLRS41-QMM01	7817-004-35	0.511	1					
H8-TAWLRS41-QMM01	7817-005-36	0.369		1				
H8-TAWLRS41-QMM01	7817-006-37	0.525		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS41-QMM01	7817-007-38	0.381		1				
H8-TAWLRS41-QMM01	7817-007-39	0.381		1				
H8-TAWLRS41-QMM01	7817-008-39	0.416		1				
H8-TAWLRS43-QMM01	7895-001-01	0.355		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-003-02	0.286		1				
H8-TAWLRS43-QMM01	7895-001-03	0.281		1				
H8-TAWLRS43-QMM01	7895-001-04	0.254	1					
H8-TAWLRS43-QMM01	7895-001-05	0.336		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-001-06	0.351		1				
H8-TAWLRS43-QMM01	7895-001-07	0.365		1				
H8-TAWLRS43-QMM01	7895-001-08	0.280		1				
H8-TAWLRS43-QMM01	7895-001-09	0.330	1					ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-001-10	0.233		1				
H8-TAWLRS43-QMM01	7895-001-11	0.300		1				
H8-TAWLRS43-QMM01	7895-001-12	0.281	1					
H8-TAWLRS43-QMM01	7895-002-13	0.378		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-002-14	0.388		1				
H8-TAWLRS43-QMM01	7895-002-15	0.286		1				
H8-TAWLRS43-QMM01	7895-003-16	0.278	1					
H8-TAWLRS43-QMM01	7895-003-17	0.290		1				ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-003-18	0.257		1				
H8-TAWLRS43-QMM01	7895-003-19	0.310		1				
H8-TAWLRS43-QMM01	7895-004-20	0.233		1				
H8-TAWLRS43-QMM01	7895-004-21	0.285	1					ANALYTICAL SPECIMEN, NOT SEXED OR NECROPSIED
H8-TAWLRS43-QMM01	7895-004-22	0.404		1				
H8-TAWLRS43-QMM01	7895-004-23	0.301		1				

Appendix F

Water Physical Chemistry Analyses

Exposure Assessment tPCBs

tPCB Analytical Results For Water & Sediment Samples

Tissue Samples For Organic and Metals (COPC) Analyses

Organic & Metals Analytical Results (COPCs) For Sediment And Tissue Samples

Water Physical Chemistry Analyses

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
PHYSICAL CHEMISTRY OF SITE WATER

Sample ID	Sample Date	pH	DO (mg/L)	Hardness (mg/L)	Conduct. (µmho/cm)	Alkalinity (mg/L)	NH ₃ -N (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Phosphate-P (mg/L)	Sulfate (mg/L)	Lithium (mg/L)	Sodium (mg/L)	Ammonium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)
SITE 28 (23b-VP-1)																				
H3-SW000041-0-0A05	04/05/00	7.5	> 6.0	92.0	178.0	136.0	< 0.05	< 0.010	0.659	< 0.030	0.034	< 0.004	< 0.010	1.860	< 0.004	0.920	0.109	1.830	13.500	42.00
H3-SW000041-0-0A12	04/12/00	7.4	> 6.0	152.0	279.0	140.0	< 0.05	< 0.010	0.594	< 0.030	0.030	< 0.004	< 0.010	1.510	< 0.004	0.825	< 0.100	1.450	12.300	42.70
H3-SW000041-0-0A17	04/17/00	7.6	> 6.0	176.0	321.0	172.0	< 0.05	< 0.010	0.694	< 0.030	0.013	< 0.004	< 0.010	1.720	< 0.004	0.818	< 0.100	1.500	13.600	51.40
H0-SW000015-0-0Y01	05/01/00	7.8	> 6.0	82.0	203.0	70.0	< 0.05	< 0.010	15.700	< 0.030	0.116	< 0.004	< 0.010	10.800	< 0.002	18.700	< 0.050	1.850	13.900	18.40
H3-SW000041-0-0Y09	05/09/00	7.8	> 6.0	194.0	354.0	182.0	< 0.05	< 0.010	1.100	< 0.030	0.014	< 0.004	< 0.010	0.620	< 0.002	0.579	< 0.050	1.830	12.800	36.50
H3-SW000041-0-0Y31	05/31/00	7.9	> 6.0	200.0	358.0	192.0	< 0.05	< 0.020	0.688	< 0.030	0.006	< 0.004	0.022	0.599	< 0.002	1.770	< 0.050	1.550	12.500	35.80
H3-SW000041-0-0U20	06/20/00	7.3	> 6.0	185.0	356.0	190.0	< 0.05	< 0.020	0.803	< 0.030	< 0.004	< 0.004	< 0.010	0.910	< 0.002	0.417	< 0.050	1.840	15.300	49.50
H3-SW000041-0-0U28	06/28/00	7.8	> 6.0	192.0	358.0	196.0	< 0.05	< 0.020	0.724	< 0.030	0.052	< 0.004	< 0.010	0.704	< 0.002	0.528	< 0.050	2.070	15.400	52.10
MEAN		7.6	> 6.0	156.8	300.8	159.8	< 0.05	< 0.020	2.519	< 0.030	0.038	< 0.004	0.022	2.265	< 0.002	3.017	0.109	1.728	12.721	41.05
SITE 29 (23b-VP-2)																				
H3-SW000042-0-0A05	04/05/00	7.5	> 6.0	144.0	274.0	142.0	< 0.05	< 0.010	0.719	< 0.030	0.026	< 0.004	< 0.010	1.530	< 0.004	1.470	0.162	1.880	8.280	28.80
H3-SW000042-0-0A12	04/12/00	7.1	> 6.0	74.0	145.0	70.0	< 0.05	< 0.010	0.605	< 0.030	0.045	< 0.004	< 0.010	0.877	< 0.004	0.709	0.147	1.530	8.240	20.40
H3-SW000042-0-0A17	04/17/00	7.3	> 6.0	90.0	171.0	90.0	< 0.05	< 0.010	0.655	< 0.030	0.008	< 0.004	< 0.010	0.783	< 0.004	0.501	< 0.100	1.900	7.430	26.50
H0-SW000015-0-0Y01	05/01/00	7.8	> 6.0	82.0	203.0	70.0	< 0.05	< 0.010	15.700	< 0.030	0.116	< 0.004	< 0.010	10.800	< 0.002	18.700	< 0.050	1.850	13.900	18.40
H3-SW000042-0-0Y09	05/09/00	7.4	> 6.0	106.0	208.0	104.0	< 0.05	< 0.010	0.747	< 0.030	0.006	< 0.004	< 0.010	0.389	< 0.002	0.446	< 0.050	2.810	7.690	18.70
H3-SW000042-0-0U20	05/20/00	7.1	> 6.0	138.0	285.0	122.0	< 0.05	< 0.020	0.853	< 0.030	0.044	< 0.004	< 0.010	1.140	< 0.002	0.436	0.068	2.230	11.500	36.40
H3-SW000042-0-0Y31	05/31/00	7.5	> 6.0	128.0	237.0	58.0	< 0.05	< 0.020	0.242	< 0.030	0.007	< 0.004	< 0.010	0.266	< 0.002	0.308	< 0.050	2.310	8.020	22.90
H3-SW000042-0-0U28	06/28/00	7.5	> 6.0	148.0	279.0	150.0	0.06	< 0.020	0.626	0.045	0.007	< 0.004	< 0.010	0.315	< 0.002	0.418	< 0.050	2.800	11.600	39.00
MEAN		7.4	> 6.0	111.3	223.1	100.8	0.06	< 0.020	2.520	0.045	0.032	< 0.004	< 0.010	2.011	< 0.002	2.886	0.125	2.176	8.429	26.26
SITE 30 (38-VP-1)																				
H2-SW000037-0-0A04	04/04/00	6.8	> 6.0	40.0	103.0	46.0	< 0.05	< 0.010	7.090	0.035	0.103	< 0.004	< 0.010	4.590	< 0.004	6.910	0.306	1.310	3.540	11.50
H3-SW000037-0-0A11	04/11/00	7.0	> 6.0	40.0	105.0	50.0	< 0.05	< 0.010	7.730	< 0.030	0.021	< 0.004	< 0.010	3.280	< 0.004	8.160	< 0.100	1.320	3.450	11.50
H3-SW000037-0-0A18	04/18/00	7.0	> 6.0	52.0	111.0	48.0	< 0.05	< 0.010	8.000	< 0.030	0.046	< 0.004	0.014	2.550	< 0.004	0.677	5.829	1.480	3.580	12.20
H2-SW000008-0-0Y01	05/01/00	8.5	> 6.0	85.0	252.0	88.0	< 0.05	< 0.010	23.800	< 0.030	0.179	< 0.004	< 0.010	5.900	0.002	18.500	0.083	1.590	8.200	18.20
H3-SW000037-0-0Y15	05/15/00	6.7	> 6.0	32.0	103.0	34.0	0.18	< 0.010	4.870	< 0.030	0.033	< 0.004	0.078	1.300	< 0.002	4.000	0.114	2.390	3.060	7.03
H3-SW000037-0-0U21	06/21/00	7.1	> 6.0	86.0	210.0	78.0	0.15	< 0.020	12.400	< 0.030	0.050	< 0.004	< 0.010	5.580	< 0.006	9.960	0.384	< 0.030	8.990	20.80
H3-SW000037-0-0L06	07/06/00	6.8	> 6.0	84.0	187.0	76.0	0.23	< 0.020	11.300	< 0.030	0.011	< 0.004	0.019	3.100	< 0.002	8.180	0.441	1.290	8.200	21.10
MEAN		7.1	> 6.0	60.0	153.4	59.7	0.19	< 0.020	10.741	0.035	0.063	< 0.004	0.037	4.326	0.002	7.685	1.184	1.563	5.003	14.05
SITE 31 (39-VP-1)																				
H3-SW000044-0-0A05	04/05/00	8.0	> 6.0	106.0	258.0	92.0	< 0.05	< 0.010	20.200	< 0.030	0.035	< 0.004	< 0.010	8.980	< 0.004	13.900	< 0.250	0.878	10.400	27.70

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
PHYSICAL CHEMISTRY OF SITE WATER

Sample ID	Sample Date	pH (eu)	DO (mg/L)	Hardness (mg/L)	Conduct. (umho/cm)	Alkalinity (mg/L)	NH3-N (mg/L)	Bromide (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Phosphate-P (mg/L)	Sulfate (mg/L)	Lithium (mg/L)	Sodium (mg/L)	Ammonium (mg/L)	Potassium (mg/L)	Magnesium (mg/L)	Calcium (mg/L)
SITE 32 (46-VP-1)																				
H3-SW000043-0-0A06	04/06/00	5.3	> 6.0	8.0	24.0	8.0	< 0.05	< 0.010	0.744	< 0.030	0.025	< 0.004	< 0.010	2.830	< 0.004	0.879	< 0.100	0.335	0.681	2.22
H3-SW000043-0-0A13	04/13/00	5.6	> 6.0	10.0	24.0	10.0	< 0.05	< 0.010	0.668	< 0.030	0.016	< 0.004	< 0.010	2.820	< 0.004	0.717	< 0.100	0.252	0.591	1.66
H3-SW000043-0-0A18	04/18/00	5.4	> 6.0	14.0	26.0	6.0	< 0.05	< 0.010	0.668	< 0.030	0.020	< 0.004	< 0.010	2.500	< 0.004	0.660	< 0.100	0.303	0.703	2.26
H3-SW000043-0-0Y01	05/01/00	5.6	> 6.0	24.0	21.0	6.0	< 0.05	< 0.010	0.602	< 0.030	0.008	< 0.004	< 0.010	2.360	< 0.002	0.693	< 0.050	0.252	0.660	1.94
H3-SW000043-0-0Y15	05/15/00	5.6	> 6.0	23.0	23.0	6.0	< 0.05	< 0.010	0.372	< 0.030	0.007	< 0.004	< 0.010	2.620	< 0.002	0.828	< 0.050	0.484	0.673	1.55
H3-SW000043-0-0Y15	05/15/00	5.6	> 6.0	21.0	23.0	6.0	< 0.05	< 0.020	0.528	< 0.030	0.005	< 0.004	< 0.010	1.840	< 0.002	0.501	< 0.050	0.482	0.612	1.42
H3-SW000043-0-0Y01	06/01/00	5.7	> 6.0	14.0	25.0	6.0	0.07	< 0.020	1.740	< 0.030	0.019	< 0.004	< 0.010	1.840	< 0.002	1.050	0.093	0.585	0.820	2.27
H3-SW000043-0-0Y22	06/22/00	5.7	> 6.0	48.0	21.0	6.0	< 0.05	< 0.020	1.300	< 0.030	0.004	< 0.004	< 0.010	1.220	< 0.002	1.180	0.087	0.604	0.736	1.80
H3-SW000043-0-0L06	07/06/00	5.7	> 6.0	22.0	24.0	6.0	< 0.05	< 0.020	0.828	< 0.030	0.013	< 0.004	< 0.010	2.254	< 0.002	0.789	0.090	0.408	0.669	1.91
MEAN		5.6	> 6.0	19.0	23.5	6.8	0.07	< 0.020	0.828	< 0.030	0.013	< 0.004	< 0.010	2.254	< 0.002	0.789	0.090	0.408	0.669	1.91
SITE 41 (WML-1)																				
H9-SW000045-0-0A10	04/10/00	6.9	> 6.0	36.0	76.0	30.0	< 0.05	< 0.010	0.739	< 0.030	< 0.003	< 0.004	< 0.010	3.660	< 0.002	1.110	< 0.050	< 0.473	2.440	6.51
H9-SW000045-0-0A24	04/24/00	6.7	> 6.0	30.0	61.0	26.0	< 0.05	< 0.010	0.877	< 0.030	< 0.003	< 0.004	< 0.010	4.510	< 0.004	1.190	< 0.100	0.929	3.300	9.66
H9-SW000045-0-0Y01	05/01/00	7.3	> 6.0	56.0	115.0	56.0	< 0.05	< 0.010	0.536	< 0.030	0.005	< 0.004	< 0.010	4.870	< 0.002	1.290	< 0.050	1.660	4.300	17.90
H9-SW000045-0-0Y15	05/15/00	6.7	> 6.0	36.0	77.0	38.0	< 0.05	< 0.010	0.601	< 0.030	0.027	< 0.004	< 0.010	2.930	< 0.002	0.950	< 0.050	1.070	3.240	5.69
H9-SW000045-0-0L06	06/06/00	6.8	> 6.0	36.0	74.0	34.0	< 0.05	< 0.020	0.514	< 0.030	0.008	< 0.004	< 0.010	1.640	< 0.002	0.555	< 0.050	1.200	3.170	5.29
H9-SW000045-0-0L26	06/26/00	7.0	> 6.0	32.0	71.0	32.0	< 0.05	< 0.020	0.634	< 0.030	0.007	< 0.004	< 0.010	1.490	< 0.002	1.000	0.114	1.380	3.470	6.96
H9-SW000045-0-0L06	07/06/00	6.5	> 6.0	52.0	100.0	46.0	< 0.05	< 0.020	0.468	0.047	0.027	< 0.004	< 0.010	0.723	< 0.002	1.090	0.082	1.150	4.590	12.90
MEAN		6.8	> 6.0	38.7	82.0	37.4	#DIV/0!	< 0.020	0.596	0.039	0.015	< 0.004	< 0.010	2.703	< 0.002	1.084	0.088	1.232	3.501	9.30
SITE 42 (WML-2)																				
H9-SW000046-0-0A10	04/10/00	6.8	> 6.0	68.0	141.0	50.0	< 0.05	0.016	0.719	< 0.030	0.018	< 0.004	< 0.010	6.120	< 0.004	1.240	< 0.100	1.410	3.870	24.10
H9-SW000046-0-0Y01	05/01/00	7.3	> 6.0	56.0	115.0	56.0	< 0.05	< 0.010	0.536	< 0.030	0.005	< 0.004	< 0.010	4.870	< 0.002	1.280	< 0.050	1.660	4.300	17.80
H9-SW000046-0-0Y08	05/08/00	7.0	> 6.0	72.0	152.0	66.0	< 0.05	0.022	0.967	< 0.030	< 0.003	< 0.004	< 0.010	5.350	< 0.002	1.230	< 0.050	1.850	3.560	15.60
MEAN		7.0	> 6.0	65.3	136.0	57.3	< 0.05	0.022	0.741	< 0.030	0.012	< 0.004	< 0.010	5.447	< 0.002	1.253	< 0.050	1.873	3.943	19.30
SITE 43 (WML-3)																				
H9-SW000047-0-0A10	04/10/00	6.9	> 6.0	10.0	30.0	48.0	< 0.05	< 0.010	0.735	0.069	0.019	< 0.004	< 0.010	6.870	< 0.004	1.230	< 0.100	0.734	0.656	2.71
H9-SW000047-0-0Y01	05/01/00	7.3	> 6.0	58.0	115.0	56.0	< 0.05	< 0.010	0.536	< 0.030	0.005	< 0.004	< 0.010	4.870	< 0.002	1.290	< 0.050	1.660	4.300	17.80
H9-SW000047-0-0Y04	05/04/00	4.9	> 6.0	14.0	33.0	2.0	< 0.05	< 0.010	0.881	0.131	0.031	< 0.004	< 0.010	9.450	< 0.002	1.400	0.101	0.725	0.273	1.62
H9-SW000047-0-0L13	06/13/00	4.7	> 6.0	10.0	30.0	2.0	< 0.05	< 0.040	0.711	0.075	< 0.008	< 0.004	0.048	5.940	< 0.002	0.980	< 0.050	0.469	0.198	0.94
H9-SW000047-0-0L13	07/13/00	7.1	> 6.0	6.0	28.0	60.0	< 0.05	< 0.020	1.130	0.063	< 0.004	< 0.004	< 0.010	7.460	< 0.002	1.290	< 0.050	0.611	0.154	1.01
H9-SW000047-0-0G02	08/02/00	7.2	> 6.0	8.0	22.0	130.0	< 0.05	< 0.020	1.020	0.078	< 0.004	< 0.004	< 0.010	4.160	< 0.002	1.060	< 0.050	0.501	0.109	0.77
H3-SW000047-0-0Y22	05/22/01	6.7	> 6.0	8.0	31.0	66.0	< 0.05	< 0.020	0.875	0.104	0.037	< 0.004	< 0.010	5.280	< 0.002	1.300	< 0.050	0.564	0.215	1.10
MEAN		6.4	> 6.0	16.0	41.3	54.9	< 0.05	< 0.020	0.827	0.080	0.023	< 0.004	< 0.010	5.719	< 0.002	1.221	< 0.050	0.765	0.843	3.75

Exposure Assessment tPCBs

HOUSATONIC RIVER PROJECT
***RANA sylvatica* VERNAL POOL STUDY 2000**
EXPOSURE ASSESSMENT FOR SEDIMENT PCB VALUES¹

2000 Wood Frog Vernal Pool Study		First Analysis (PAC)	Mean Total PCB (mg/Kg) <i>based on two samples from PAC analysis</i>
Vernal Pool ID	Sediment Sample ID		(value used for data analysis)
8-VP-1	H2-SE001255-0-0000	12	14.5
	H2-SE001273-0-0000	17	
18-VP-2	H3-SE001254-0-0000	5.2	6.05
	H3-SE001276-0-0000	6.9	
23b-VP-1	H3-SE001258-0-0000	0.12	0.19
	H3-SE001274-0-0000	0.25	
23b-VP-2	H3-SE001256-0-0000	0.12	0.11
	H3-SE001275-0-0000	0.098	
38-VP-1	H3-SE001264-0-0000	38	28.0
	H3-SE001266-0-0000	18	
38-VP-2	H3-SE001257-0-0000	94	62.0
	H3-SE001267-0-0000	30	
39-VP-1	H3-SE001262-0-0000	52	52.0
46-VP-1	H3-SE001261-0-0000	0.87	0.5
	H3-SE001271-0-0000	ND (0.13)	
46-VP-5	H3-SE001263-0-0000	3.6	2.2
	H3-SE001272-0-0000	0.75	
WML-1	H9-SE001259-0-0000	Rejected	0.007
	H9-SE001269-0-0000	ND (0.007)	
WML-2	H9-SE001260-0-0000	Rejected	0.013
	H9-SE001268-0-0000	ND (0.013)	
WML-3	H9-SE001265-0-0000	Rejected	0.011
	H9-SE001270-0-0000	ND (0.011)	

¹Based on work done by EVS Environment Consultants.

HOUSATONIC RIVER PROJECT
***RANA sylvatica* VERNAL POOL STUDY 2000**
EXPOSURE ASSESSMENT FOR WATER PCB VALUES¹

2000 Wood Frog Vernal Pool Study		First Analysis (PAC)	Mean Total PCB (µg/L) <i>based on two samples from PAC analysis</i>
Vernal Pool ID	Sediment Sample ID		(value used for data analysis)
8-VP-1	H2-SW000040-0-0A05	0.44	0.325
	H2-SW000040-0-0A11	0.21	
18-VP-2	H3-SW000038-0-0A04	0.11	0.0805
	H3-SW000038-0-0A13	0.051	
23b-VP-1	H3-SW000041-0-0A05	0.013	0.013
	H3-SW000041-0-0A12	0.013	
23b-VP-2	H3-SW000042-0-0A05	0.014	0.0135
	H3-SW000042-0-0A12	0.013	
38-VP-1	H3-SW000037-0-0A04	0.096	1.53
	H3-SW000037-0-0A11	0.21	
38-VP-2	H3-SW000039-0-0A05	0.58	0.465
	H3-SW000039-0-0A11	0.35	
39-VP-1	H3-SW000044-0-0A06	0.096	0.096
46-VP-1	H3-SW000043-0-0A06	0.013	0.0177
	H3-SW000043-0-0A13	0.015	
	H3-SW000043-0-0Y01	0.025	
46-VP-5	H3-SW000036-0-0A03	0.038	0.0255
	H3-SW000036-0-0A12	0.013	
WML-1	H9-SE001259-0-0000	Rejected	0.02
	H9-SE001269-0-0000	ND (0.007)	
WML-2	H9-SE001260-0-0000	Rejected	0.013
	H9-SE001268-0-0000	ND (0.013)	
WML-3	H9-SE001265-0-0000	Rejected	0.013
	H9-SE001270-0-0000	ND (0.011)	

¹Based on work done by EVS Environment Consultants.

tPCB Analytical Results For Water & Sediment Samples

Appendix F

Rana sylvatica Vernal Pool Study 2000 PCB Test Results Water Samples

Analyte	Site ID		SW000036		SW000037		SW000037		SW000038	
	Location ID		H3-SW000036-0-0A03		H3-SW000037-0-0A04		H3-SW000037-0-0A11		H3-SW000038-0-0A04	
	Field Sample ID		04/03/2000		04/04/2000		04/11/2000		04/04/2000	
	Date Collected		0.0-0.0		0.0-0.0		0.0-0.0		0.0-0.0	
Depth	EPA COE		EPA COE		EPA COE		EPA COE		EPA COE	
	Source									
PCBS										
AROCLOR-1016 (ug/l)			0.013 U		0.013 U		0.038 U		0.013 U	
AROCLOR-1221 (ug/l)			0.013 U		0.013 U		0.038 U		0.013 U	
AROCLOR-1232 (ug/l)			0.013 U		0.013 U		0.038 U		0.013 U	
AROCLOR-1242 (ug/l)			0.013 U		0.013 U		0.038 U		0.013 U	
AROCLOR-1248 (ug/l)			0.013 U		0.013 U		0.038 U		0.013 U	
AROCLOR-1254 (ug/l)			0.014		0.019		0.040		0.028	
AROCLOR-1260 (ug/l)			0.024 J		0.077		0.17		0.084	
PCB, TOTAL (ug/l)			0.038 J		0.096		0.21		0.11	

Result Suffix Symbols:

R=Reject
U=Undetected
J=Estimated

0=Unvalidated
10=Validated
11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Water Samples

Analyte	Site ID	SW000038		SW000039		SW000039		SW000040		SW000040	
	Location ID	H3-SW000038-0-0A13		H3-SW000039-0-0A05		H3-SW000039-0-0A11		H2-SW000040-0-0A05		H2-SW000040-0-0A11	
	Field Sample ID	04/13/2000		04/05/2000		04/11/2000		04/05/2000		04/11/2000	
	Date Collected	0.0-0.0		0.0-0.0		0.0-0.0		0.0-0.0		0.0-0.0	
	Depth	EPA_COE		EPA_COE		EPA_COE		EPA_COE		EPA_COE	
Source	EPA_COE		EPA_COE		EPA_COE		EPA_COE		EPA_COE		
PCBS											
AROCLOR-1016 (ug/l)		0.027 U		0.065 U		0.064 U		0.053 U		0.039 U	
AROCLOR-1221 (ug/l)		0.027 U		0.065 U		0.064 U		0.053 U		0.039 U	
AROCLOR-1232 (ug/l)		0.027 U		0.065 U		0.064 U		0.053 U		0.039 U	
AROCLOR-1242 (ug/l)		0.027 U		0.065 U		0.064 U		0.053 U		0.039 U	
AROCLOR-1248 (ug/l)		0.027 U		0.065 U		0.064 U		0.053 U		0.039 U	
AROCLOR-1254 (ug/l)		0.027 U		0.11		0.073 J		0.11 J		0.064 J	
AROCLOR-1260 (ug/l)		0.051		0.47 J		0.28		0.33 J		0.15	
PCB, TOTAL (ug/l)		0.051		0.58 J		0.35 J		0.44 J		0.21 J	

Result Suffix Symbols:

R=Reject 0=Unvalidated
 U=Undetected 10=Validated
 J=Estimated 11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Water Samples

Result Suffix Symbols:

R=Reject	0=Unvalidated
U=Undetected	10=Validated
J=Estimated	11=Completed

Appendix F

Rana sylvatica Vernal Pool Study 2000 PCB Test Results Water Samples

Analyte	Site ID		SW000043		SW000044		SW000045		SW000045	
	Location ID		H3-SW000043-0-0A13		H3-SW000044-0-0A06		H9-SW000045-0-0A10		H9-SW000045-0-0Y01	
	Field Sample ID		04/13/2000		05/01/2000		04/08/2000		04/10/2000	
	Date Collected		0.0-0.0		0.0-0.0		0.0-0.0		0.0-0.0	
	Depth		EPA_COE		EPA_COE		EPA_COE		EPA_COE	
Source		EPA_COE		EPA_COE		EPA_COE		EPA_COE		
PCBS										
AROCLOR-1016 (ug/l)										
AROCLOR-1221 (ug/l)										
AROCLOR-1232 (ug/l)										
AROCLOR-1242 (ug/l)										
AROCLOR-1248 (ug/l)										
AROCLOR-1254 (ug/l)										
AROCLOR-1260 (ug/l)										
PCB, TOTAL (ug/l)										

Result Suffix Symbols:

R=Reject 0=Unvalidated
U=Undetected 10=Validated
J=Estimated 11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Water Samples

Analyte	Site ID	
	Location ID	Field Sample ID
	Date Collected	Depth
	Source	EPA COE
PCBS		
AROCOR-1016 (ug/l)	0.013 U	0.013 U
AROCOR-1221 (ug/l)	0.013 U	0.013 U
AROCOR-1232 (ug/l)	0.013 U	0.013 U
AROCOR-1242 (ug/l)	0.013 U	0.013 U
AROCOR-1248 (ug/l)	0.013 U	0.013 U
AROCOR-1254 (ug/l)	0.013 U	0.013 U
AROCOR-1260 (ug/l)	0.013 U	0.013 U
PCB, TOTAL (ug/l)	0.013 U	0.013 U

Result Suffix Symbols:

R=Reject 0=Unvalidated
 U=Undetected 10=Validated
 J=Estimated 11=Completeness Check Complete

Appendix F

Rana sylvatica Vernal Pool Study 2000 PCB Test Results Sediment Samples

Analyte	Site ID							
	Location ID	SE001254	SE001255	SE001256	SE001257	SE001258		
	Field Sample ID	H3-SE001254-0-0000	H2-SE001255-0-0000	H3-SE001256-0-0000	H3-SE001257-0-0000	H3-SE001258-0-0000		
	Date Collected	04/04/2000	04/05/2000	04/05/2000	04/05/2000	04/05/2000		
	Depth	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2	0.0-0.2		
Source		EPA COE	EPA COE	EPA COE	EPA COE	EPA COE		
PCBS								
AROCOR-1016 (ug/kg)		1500 U	3500 U	79.0 R	12000 R	50.0 U		
AROCOR-1221 (ug/kg)		1500 U	3500 U	79.0 R	12000 R	50.0 U		
AROCOR-1232 (ug/kg)		1500 U	3500 U	79.0 R	12000 R	50.0 U		
AROCOR-1242 (ug/kg)		1500 U	3500 U	79.0 R	12000 R	50.0 U		
AROCOR-1248 (ug/kg)		1500 U	3500 U	79.0 R	12000 R	50.0 U		
AROCOR-1254 (ug/kg)		1500 U	3900 J	79.0 R	31000 J	50.0 U		
AROCOR-1260 (ug/kg)		5200	7800 J	120 J	63000 J	120 J		
PCB, TOTAL (ug/kg)		5200	12000 J	120 J	94000 J	120 J		

Result Suffix Symbols:

R=Reject 0=Unvalidated
U=Undetected 10=Validated
J=Estimated 11=Completeness Check Complete

Appendix F

Rana sylvatica Vernal Pool Study 2000 PCB Test Results Sediment Samples

Analyte	Site ID		SE001259		SE001260		SE001261		SE001262		SE001263	
	Location ID		H9-SE001259-0-0000		H9-SE001260-0-0000		H3-SE001261-0-0000		H3-SE001262-0-0000		H3-SE001263-0-0000	
	Field Sample ID		04/10/2000		04/10/2000		04/06/2000		04/06/2000		04/03/2000	
	Data Collected		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2	
Analyte	Depth		EPA COE		EPA COE		EPA COE		EPA COE		EPA COE	
	Source											
PCBS												
AROC-LOR-1016 (ug/kg)			69.0 R		98.0 R		620 U		7700 U		640 R	
AROC-LOR-1221 (ug/kg)			69.0 R		98.0 R		620 U		7700 U		640 R	
AROC-LOR-1232 (ug/kg)			69.0 R		98.0 R		620 U		7700 U		640 R	
AROC-LOR-1242 (ug/kg)			69.0 R		98.0 R		620 U		7700 U		640 R	
AROC-LOR-1248 (ug/kg)			69.0 R		98.0 R		620 U		7700 U		640 R	
AROC-LOR-1254 (ug/kg)			69.0 R		98.0 R		620 U		11000		1000 J	
AROC-LOR-1260 (ug/kg)			69.0 R		98.0 R		870		41000		2600 J	
PCB, TOTAL (ug/kg)			69.0 R		98.0 R		870		52000		3600 J	

Result Suffix Symbols:

R=Reject 0=Unvalidated
U=Undetected 10=Validated
J=Estimated 11=Completeness Check Complete

Appendix F

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Sediment Samples

Analyte	Site ID		SE001264		SE001265		SE001266		SE001267		SE001268	
	Location ID		H3-SE001264-0-0000		H9-SE001265-0-0000		H3-SE001266-0-0000		H3-SE001267-0-0000		H9-SE001268-0-0000	
	Field Sample ID		04/04/2000		04/10/2000		04/27/2000		05/02/2000		05/02/2000	
	Date Collected		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2	
Depth	Source		EPA COE		EPA COE		EPA COE		EPA COE		EPA COE	
PCBS												
AROCLOP-1016 (ug/kg)			8000 U		130 R		1100 U		2100 U		130 U	
AROCLOP-1221 (ug/kg)			8000 U		130 R		1100 U		2100 U		130 U	
AROCLOP-1232 (ug/kg)			8000 U		130 R		1100 U		2100 U		130 U	
AROCLOP-1242 (ug/kg)			8000 U		130 R		1100 U		2100 U		130 U	
AROCLOP-1248 (ug/kg)			8000 U		130 R		1100 U		2100 U		130 U	
AROCLOP-1254 (ug/kg)			8600		130 R		3400		6700		130 U	
AROCLOP-1260 (ug/kg)			29000		130 R		15000		23000		130 U	
PCB, TOTAL (ug/kg)			38000		130 R		18000		30000		130 U	

Result Suffix Symbols:

R=Reject 0=Unvalidated
 U=Undetected 10=Validated
 J=Estimated 11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Sediment Samples

Analyte	Site ID		SE001269		SE001270		SE001271		SE001271		SE001272	
	Location ID		H9-SE001269-0-0000		H9-SE001270-0-0000		H3-SE001271-0-0000		H3-SE001271-1-0000		H3-SE001272-0-0000	
	Field Sample ID		05/02/2000		05/02/2000		05/16/2000		05/16/2000		05/17/2000	
	Date Collected		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2	
Analyte	Depth		EPA COE		EPA COE		EPA COE		EPA COE		EPA COE	
	Source											
PCBS												
AROC-LOR-1016 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1221 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1232 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1242 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1248 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1254 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
AROC-LOR-1260 (ug/kg)			69.0 U		110 U		130 U		100 U		100 U	
PCB, TOTAL (ug/kg)			7.10 U		11.0 U		13.0 U		10.0 U		7.50	

Result Suffix Symbols:

R=Reject 0=Unvalidated
 U=Undetected 10=Validated
 J=Estimated 11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Sediment Samples

Analyte	Site ID		SE001273		SE001274		SE001274		SE001275		
	Location ID		H2-SE001273-0-0000		H3-SE001274-0-0000		H3-SE001274-1-0000		H3-SE001275-0-0000		
	Field Sample ID		05/17/2000		05/17/2000		05/18/2000		05/18/2000		
	Date Collected		0.0-0.2		0.0-0.2		0.0-0.2		0.0-0.2		
Depth	Source		EPA COE		EPA COE		EPA COE		EPA COE		
PCBS											
AROCOR-1016 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1221 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1232 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1242 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1248 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1254 (ug/kg)		4300 U		4000 U		72.0 UJ		67.0 UJ		62.0 UJ	
AROCOR-1260 (ug/kg)		17000		12000		250 J		380 J		98.0 J	
PCB, TOTAL (ug/kg)		17000		12000		250 J		380 J		98.0 J	

Result Suffix Symbols:

R=Reject 0=Unvalidated
U=Undetected 10=Validated
J=Estimated 11=Completeness Check Complete

***Rana sylvatica* Vernal Pool Study 2000**
PCB Test Results
Sediment Samples

Site ID	
Location ID	SE001276
Field Sample ID	H3-SE001276-0-0000
Date Collected	05/19/2000
Depth	0.0-0.2
Source	EPA, COE
Analyte	
PCBS	
AROCOR-1016 (ug/kg)	740 UJ
AROCOR-1221 (ug/kg)	740 UJ
AROCOR-1232 (ug/kg)	740 UJ
AROCOR-1242 (ug/kg)	740 UJ
AROCOR-1248 (ug/kg)	740 UJ
AROCOR-1254 (ug/kg)	740 UJ
AROCOR-1260 (ug/kg)	6900 J
PCB, TOTAL (ug/kg)	6900 J

Result Suffix Symbols:

R=Reject 0=Unvalidated
 U=Undetected 10=Validated
 J=Estimated 11=Completeness Check Complete

Tissue Samples For Organic and Metals (COPC) Analyses

Organic & Metals Analytical Results (COPCs) For Tissue Samples

Appendix F

HOUSATONIC RIVER PROJECT
***RANA sylvatica* VERNAL POOL STUDY 2000**
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase I Metamorph Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs	New ID
Bag 1	20	H2-TA02RS20-O-EM06	7542-003	METAMORPHS (FROGLET)		
Bag 2	20	H2-TA02RS20-O-EM07	7542-004	METAMORPHS (FROGLET)		
Bag 3	20	H2-TA02RS20-1-EM07	7542-005	METAMORPHS (FROGLET)		
Bag 4	20	H2-TA02RS20-O-EM08	7542-006	METAMORPHS (FROGLET)		
Bag 5	20	H2-TA02RS20-O-EM09	7542-007	METAMORPHS (FROGLET)	Y	H2-TA02RS20-O-MM08
Bag 6	20	H2-TA02RS20-O-EM10	7542-008	METAMORPHS (FROGLET)		
Bag 8	21	H3-TA08RS21-O-EM06	7539-001	METAMORPHS (FROGLET)	Y	H3-TA08RS21-O-MM06
Bag 9	21	H3-TA08RS21-1-EM06	7539-002	METAMORPHS (FROGLET)		
Bag 10	21	H3-TA08RS21-O-EM07	7539-003	METAMORPHS (FROGLET)		
Bag 11	21	H3-TA08RS21-O-EM08	7539-004	METAMORPHS (FROGLET)		
Bag 12	21	H3-TA08RS21-O-EM09	7539-005	METAMORPHS (FROGLET)		
Bag 13	21	H3-TA08RS21-O-EM10	7539-006	METAMORPHS (FROGLET)		
Bag 15	22	H3-TA08RS22-O-EM06	7527-001	METAMORPHS (FROGLET)		
Bag 16	22	H3-TA08RS22-O-EM07	7527-002	METAMORPHS (FROGLET)		
Bag 17	22	H3-TA08RS22-O-EM08	7527-003	METAMORPHS (FROGLET)		
Bag 18	22	H3-TA08RS22-O-EM09	7527-004	METAMORPHS (FROGLET)		
Bag 19	22	H3-TA08RS22-O-EM10	7527-005	METAMORPHS (FROGLET)		
Bag 20	22	H3-TA08RS22-1-EM10	7527-006	METAMORPHS (FROGLET)	Y	H3-TA08RS22-O-MM10 Above sample lost by GERG. Sent this sample 6/4/01 per S. Campbell.
Bag 24	27	H3-TA04RS27-O-EM02	7535-005	METAMORPHS (FROGLET)		
Bag 25	27	H3-TA04RS27-O-EM03	7535-006	METAMORPHS (FROGLET)		
Bag 27	27	H3-TA04RS27-O-EM05	7535-008	METAMORPHS (FROGLET)	Y	H3-TA04RS27-O-MM05
Bag 29	28	H3-TA05RS28-O-EM01	7540-001	METAMORPHS (FROGLET)		
Bag 32	28	H3-TA05RS28-O-EM03	7540-004	METAMORPHS (FROGLET)		
Bag 33	28	H3-TA05RS28-O-EM04	7540-005	METAMORPHS (FROGLET)	Y	H3-TA05RS28-O-MM04
Bag 33	28	H3-TA05RS28-O-EM04	7540-005	METAMORPHS (FROGLET)		
Bag 34	28	H3-TA05RS28-O-EM05	7540-006	METAMORPHS (FROGLET)		
Bag 37	29	H3-TA05RS29-1-EM01	7541-002	METAMORPHS (FROGLET)		
Bag 38	29	H3-TA05RS29-O-EM02	7541-003	METAMORPHS (FROGLET)	Y	H3-TA05RS29-O-MM02
Bag 39	29	H3-TA05RS29-O-EM03	7541-004	METAMORPHS (FROGLET)		

Appendix F

HOUSATONIC RIVER PROJECT
***RANA sylvatica* VERNAL POOL STUDY 2000**
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase I Metamorph Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs	New ID
Bag 40	29	H3-TA08RS29-0-EM04	7541-005	METAMORPHS (FROGLETS)		
Bag 41	29	H3-TA08RS29-0-EM05	7541-006	METAMORPHS (FROGLETS)		
Bag 43	30	H3-TA08RS30-0-EM01	7533-001	METAMORPHS (FROGLETS)	Y	H3-TA08RS30-0-MM02
Bag 44	30	H3-TA08RS30-0-EM02	7533-002	METAMORPHS (FROGLETS)	Y	H3-TA08RS30-0-MM03
Bag 45	30	H3-TA08RS30-0-EM03	7533-003	METAMORPHS (FROGLETS)		
Bag 46	30	H3-TA08RS30-0-EM04	7533-004	METAMORPHS (FROGLETS)		
Bag 47	30	H3-TA08RS30-0-EM05	7533-005	METAMORPHS (FROGLETS)	Y	H3-TA08RS30-0-MM05
Bag 48	30	H3-TA08RS30-1-EM05	7533-006	METAMORPHS (FROGLETS)		
Bag 51	32	H3-TA08RS32-1-EM01	7545-002	METAMORPHS (FROGLETS)		
Bag 52	32	H3-TA08RS32-0-EM02	7545-003	METAMORPHS (FROGLETS)		
Bag 53	32	H3-TA08RS32-0-EM03	7545-004	METAMORPHS (FROGLETS)		
Bag 54	32	H3-TA08RS32-0-EM04	7545-005	METAMORPHS (FROGLETS)	Y	H3-TA08RS32-0-MM04
Bag 55	32	H3-TA08RS32-0-EM05	7545-006	METAMORPHS (FROGLETS)		
Bag 57	41	H9-TAWLRS41-0-EM01	7554-001	METAMORPHS (FROGLETS)		
Bag 58	41	H9-TAWLRS41-0-EM02	7554-002	METAMORPHS (FROGLETS)		
Bag 59	41	H9-TAWLRS41-0-EM03	7554-003	METAMORPHS (FROGLETS)	Y	H9-TAWLRS41-0-MM03
Bag 60	41	H9-TAWLRS41-0-EM04	7554-004	METAMORPHS (FROGLETS)		
Bag 61	41	H9-TAWLRS41-0-EM05	7554-005	METAMORPHS (FROGLETS)		
Bag 62	41	H9-TAWLRS41-1-EM05	7554-006	METAMORPHS (FROGLETS)		
Bag 64	42	H9-TAWLRS42-0-EM01	7555-001	METAMORPHS (FROGLETS)		
Bag 65	42	H9-TAWLRS42-0-EM02	7555-002	METAMORPHS (FROGLETS)		
Bag 66	42	H9-TAWLRS42-0-EM03	7555-003	METAMORPHS (FROGLETS)		
Bag 67	42	H9-TAWLRS42-0-EM04	7555-004	METAMORPHS (FROGLETS)		
Bag 68	42	H9-TAWLRS42-0-EM05	7555-005	METAMORPHS (FROGLETS)	Y	H9-TAWLRS42-0-MM05
Bag 69	42	H9-TAWLRS42-1-EM05	7555-006	METAMORPHS (FROGLETS)		
Bag 71	43	H9-TAWLRS43-0-EM01	7557-001	METAMORPHS (FROGLETS)		
Bag 72	43	H9-TAWLRS43-0-EM02	7557-002	METAMORPHS (FROGLETS)		
Bag 73	43	H9-TAWLRS43-0-EM03	7557-003	METAMORPHS (FROGLETS)	Y	H9-TAWLRS43-0-MM03
Bag 74	43	H9-TAWLRS43-0-EM05	7557-005	METAMORPHS (FROGLETS)		
Bag 75	43	H9-TAWLRS43-1-EM05	7557-006	METAMORPHS (FROGLETS)		
Bag 76	43	H9-TAWLRS43-0-EM04	7557-004	METAMORPHS (FROGLETS)		

HOUSATONIC RIVER PROJECT
***RANA sylvatica* VERNAL POOL STUDY 2000**
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase I Egg Mass Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs
Bag 1	20	H2-TA02RS20-0-EM06	7542-003	EGG MASS SECTION	
Bag 2	20	H2-TA02RS20-0-EM07	7542-004	EGG MASS SECTION	
Bag 3	20	H2-TA02RS20-1-EM07	7542-005	EGG MASS SECTION	
Bag 4	20	H2-TA02RS20-0-EM08	7542-006	EGG MASS SECTION	Y
Bag 5	20	H2-TA02RS20-0-EM09	7542-007	EGG MASS SECTION	
Bag 6	20	H2-TA02RS20-0-EM10	7542-008	EGG MASS SECTION	
Bag 16	22	H3-TA08RS22-0-EM07	7527-002	EGG MASS SECTION	
Bag 18	22	H3-TA08RS22-0-EM09	7527-004	EGG MASS SECTION	Y
Bag 19	22	H3-TA08RS22-0-EM10	7527-005	EGG MASS SECTION	
Bag 20	22	H3-TA08RS22-1-EM10	7527-006	EGG MASS SECTION	
Bag 22	27	H3-TA04RS27-0-EM01	7535-003	EGG MASS SECTION	
Bag 23	27	H3-TA04RS27-1-EM01	7535-004	EGG MASS SECTION	
Bag 24	27	H3-TA04RS27-0-EM02	7535-005	EGG MASS SECTION	
Bag 25	27	H3-TA04RS27-0-EM03	7535-006	EGG MASS SECTION	Y
Bag 26	27	H3-TA04RS27-0-EM04	7535-007	EGG MASS SECTION	
Bag 27	27	H3-TA04RS27-0-EM05	7535-008	EGG MASS SECTION	
Bag 30	28	H3-TA05RS28-1-EM01	7540-002	EGG MASS SECTION	
Bag 32	28	H3-TA05RS28-0-EM03	7540-004	EGG MASS SECTION	Y
Bag 36	29	H3-TA05RS29-0-EM01	7541-001	EGG MASS SECTION	
Bag 37	29	H3-TA05RS29-1-EM01	7541-002	EGG MASS SECTION	Y
Bag 38	29	H3-TA05RS29-0-EM02	7541-003	EGG MASS SECTION	
Bag 40	29	H3-TA05RS29-0-EM04	7541-005	EGG MASS SECTION	
Bag 43	30	H3-TA08RS30-0-EM01	7533-001	EGG MASS SECTION	Y
Bag 44	30	H3-TA08RS30-0-EM02	7533-002	EGG MASS SECTION	
Bag 45	30	H3-TA08RS30-0-EM03	7533-003	EGG MASS SECTION	Y
Bag 46	30	H3-TA08RS30-0-EM04	7533-004	EGG MASS SECTION	
Bag 47	30	H3-TA08RS30-0-EM05	7533-005	EGG MASS SECTION	Y
Bag 51	32	H3-TA08RS32-1-EM01	7545-002	EGG MASS SECTION	
Bag 52	32	H3-TA08RS32-0-EM02	7545-003	EGG MASS SECTION	Y
Bag 53	32	H3-TA08RS32-0-EM03	7545-004	EGG MASS SECTION	
Bag 54	32	H3-TA08RS32-0-EM04	7545-005	EGG MASS SECTION	
Bag 57	41	H9-TAWLRS41-0-EM01	7554-001	EGG MASS SECTION	
Bag 58	41	H9-TAWLRS41-0-EM02	7554-002	EGG MASS SECTION	
Bag 59	41	H9-TAWLRS41-0-EM03	7554-003	EGG MASS SECTION	
Bag 60	41	H9-TAWLRS41-0-EM04	7554-004	EGG MASS SECTION	Y

picking this sample instead so not a field duplicate sample getting analysis

picking this sample instead so not a field duplicate sample getting analysis

egg mass sample not included, it was actually *spent* egg mass so
 <-picked this sample (contained egg mass section sample)

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
 TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase I Egg Mass Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs
Bag 61	41	H9-TAWLRS41-O-EM05	7554-005	EGG MASS SECTION	
Bag 62	41	H9-TAWLRS41-1-EM05	7554-006	EGG MASS SECTION	
Bag 64	42	H9-TAWLRS42-O-EM01	7555-001	EGG MASS SECTION	Y
Bag 65	42	H9-TAWLRS42-O-EM02	7555-002	EGG MASS SECTION	
Bag 66	42	H9-TAWLRS42-O-EM03	7555-003	EGG MASS SECTION	
Bag 67	42	H9-TAWLRS42-O-EM04	7555-004	EGG MASS SECTION	
Bag 68	42	H9-TAWLRS42-O-EM05	7555-005	EGG MASS SECTION	
Bag 69	42	H9-TAWLRS42-1-EM05	7555-006	EGG MASS SECTION	
Bag 71	43	H9-TAWLRS43-O-EM01	7557-001	EGG MASS SECTION	
Bag 72	43	H9-TAWLRS43-O-EM02	7557-002	EGG MASS SECTION	
Bag 73	43	H9-TAWLRS43-O-EM03	7557-003	EGG MASS SECTION	
Bag 74	43	H9-TAWLRS43-O-EM05	7557-005	EGG MASS SECTION	
Bag 75	43	H9-TAWLRS43-1-EM05	7557-006	EGG MASS SECTION	Y
Bag 76	43	H9-TAWLRS43-O-EM04	7557-04	EGG MASS SECTION	

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
 TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase I Crossover Metamorph Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs	New ID
Bag 14	21	H3-TA08RS21	CROSSOVER	METAMORPHS (FROGLETS)	Y	H3-TA08RS21-O-MC01
Bag 49	30	H3-TA08RS30	CROSSOVER	METAMORPHS (FROGLETS)	Y	H3-TA08RS30-O-MC01
Bag 63	41	H9-TAWLRS41	CROSSOVER	METAMORPHS (FROGLETS)	Y	H9-TAWLRS41-O-MC01
Bag 70	42	H9-TAWLRS42	CROSSOVER	METAMORPHS (FROGLETS)	Y	H9-TAWLRS42-O-MC01
Bag 77	43	H9-TAWLRS43	SPIKE STUDY	METAMORPHS (FROGLETS)	Y	H9-TAWLRS43-O-MS01

HOUSATONIC RIVER PROJECT
***Rana sylvatica* VERNAL POOL STUDY 2000**
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase II Tadpole Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Event No.	Total PCBs
Bag 7	20	H2-TA02RS20-0-TP08	7542-010	TADPOLES	1	Y
	20	H2-TA02RS20-1-TP08	7542-011	TADPOLES	1	
	20	H2-TA02RS20-0-TP09	7542-014	TADPOLES	2	
	20	H2-TA02RS20-0-TP10	7701-002	TADPOLES	3	Y
	20	H2-TA02RS20-0-TP11	7755-001	TADPOLES	4	
	20	H2-TA02RS20-0-TP12	7766-001	TADPOLES	4	
Bag 14	21	H3-TA08RS21-0-TP12	7539-011	TADPOLES	1	Y
	21	H3-TA08RS21-1-TP13	7539-013	TADPOLES	2	
	21	H3-TA08RS21-0-TP13	7539-012	TADPOLES	2	
	21	H3-TA08RS21-0-TP14	7698-002	TADPOLES	3	Y
	21	H3-TA08RS21-0-TP15	7763-002	TADPOLES	4	
Bag 21	22	H3-TA10RS22-0-TP15	7527-010	TADPOLES	1	Y
	22	H3-TA10RS22-0-TP16	7527-012	TADPOLES	2	
	22	H3-TA10RS22-0-TP18	7702-002	TADPOLES	3	Y
	22	H3-TA10RS22-0-TP17	7771-001	TADPOLES	4	
	22	H3-TA10RS22-1-TP17	7771-002	TADPOLES	4	
Bag 28	27	H3-TA04RS27-0-TP01	7535-010	TADPOLES	1	Y
	27	H3-TA04RS27-0-TP02	7535-012	TADPOLES	2	
	27	H3-TA04RS27-1-TP02	7535-015	TADPOLES	2	
	27	H3-TA04RS27-0-TP03	7693-001	TADPOLES	3	Y
	27	H3-TA04RS27-0-TP04	7761-001	TADPOLES	4	
Bag 35	28	H3-TA05RS28-0-TP01	7540-010	TADPOLES	1	Y
	28	H3-TA05RS28-1-TP01	7540-011	TADPOLES	1	
	28	H3-TA05RS28-0-TP02	7540-013	TADPOLES	2	
	28	H3-TA05RS28-0-TP03	7697-002	TADPOLES	3	Y
	28	H3-TA05RS28-0-TP05	7756-001	TADPOLES	4	
	28	H3-TA05RS28-0-TP06	7765-001	TADPOLES	4	
	28	H3-TA05RS28-0-TP04	7780-001	TADPOLES	4	
	29	H3-TA05RS29-0-TP01	7541-010	TADPOLES	1	Y
Bag 42	29	H3-TA05RS29-1-TP01	7541-011	TADPOLES	1	
	29	H3-TA05RS29-0-TP02	7541-013	TADPOLES	2	
	29	H3-TA05RS29-0-TP03	7696-002	TADPOLES	3	Y
	29	H3-TA05RS29-0-TP04	7724-001	TADPOLES	3	
	29	H3-TA05RS29-0-TP05	7754-001	TADPOLES	4	
	29	H3-TA05RS29-0-TP06	7764-001	TADPOLES	4	
	30	H3-TA08RS30-0-TP01	7533-010	TADPOLES	1	Y

picking this sample instead so not a field duplicate sample getting analysis

HOUSATONIC RIVER PROJECT
***Rana sylvatica* VERNAL POOL STUDY 2000**
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase II Tadpole Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Event No.	Total PCBs
	30	H3-TA08RS30-0-TP02	7533-014	TADPOLES	2	
	30	H3-TA08RS30-0-TP03	7762-001	TADPOLES	4	Y
	30	H3-TA08RS30-1-TP03	7769-001	TADPOLES	4	
Bag 56	32	H3-TA08RS32-0-TP01	7545-010	TADPOLES	1	Y
	32	H3-TA08RS32-1-TP01	7545-012	TADPOLES	1	
	32	H3-TA08RS32-0-TP02	7545-015	TADPOLES	2	
	32	H3-TA08RS32-0-TP03	7545-016	TADPOLES	2	
	32	H3-TA08RS32-0-TP04	7545-018	TADPOLES	2	
	32	H3-TA08RS32-0-TP05	7703-002	TADPOLES	3	Y
Bag 63	32	H3-TA08RS32-0-TP06	7770-001	TADPOLES	4	
	41	H9-TAWLRS41-0-TP01	7554-009	TADPOLES	1	Y
	41	H9-TAWLRS41-1-TP01	7554-010	TADPOLES	1	
	41	H9-TAWLRS41-0-TP02	7554-014	TADPOLES	2	
	41	H9-TAWLRS41-0-TP03	7720-002	TADPOLES	3	Y
	41	H9-TAWLRS41-0-TP04	7778-001	TADPOLES	4	
Bag 77	43	H9-TAWLRS43-0-TP01	7557-010	TADPOLES	1	Y
	43	H9-TAWLRS43-0-TP04	7635-001	TADPOLES	4	
	43	H9-TAWLRS43-0-TP02	7688-001	TADPOLES	2	
	43	H9-TAWLRS43-1-TP02	7668-002	TADPOLES	2	
	43	H9-TAWLRS43-0-TP03	7688-004	TADPOLES	3	Y

picking this sample instead so not a field duplicate sample getting analysis

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase III Metamorph Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs	PCB Congeners	Dioxin/Furans	Metals	PAH/OC Pest	Composite I.D.
Bag 7	20	H2-TA02RS20-O-MM01	7811-001	METAMORPH	Y	Y	Y	Y	Y	H2-TA02RS20-O-C001
	20	H2-TA02RS20-O-MM01	7811-002	METAMORPH						
Bag 14	21	H3-TA08RS21-O-MM01	7810-001	METAMORPH						
	21	H3-TA08RS21-O-MM01	7810-002	METAMORPH						
	21	H3-TA08RS21-O-MM01	7810-003	METAMORPH						
	21	H3-TA08RS21-O-MM01	7810-004	METAMORPH						
	21	H3-TA08RS21-O-MM01	7810-005	METAMORPH						
	21	H3-TA08RS21-O-MM01	7810-006	METAMORPH						
Bag 21	22	H3-TA10RS22-O-MM01	7802-001	METAMORPH	Y					H3-TA10RS22-O-C001
	22	H3-TA10RS22-O-MM01	7802-001	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-001	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-005	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-006	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-007	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-008	METAMORPH						
	22	H3-TA10RS22-O-MM01	7802-008	METAMORPH						
Bag 28	27	H3-TA04RS27-O-MM01	7799-001	METAMORPH	Y	Y	Y	Y	Y	H3-TA04RS27-O-C001
	27	H3-TA04RS27-O-MM01	7799-001	METAMORPH						
	27	H3-TA04RS27-O-MM01	7799-002	METAMORPH						
Bag 35	28	H3-TA05RS28-O-MM01	7787-002	METAMORPH	Y					H3-TA05RS28-O-C001
	28	H3-TA05RS28-O-MM01	7787-003	METAMORPH						
	28	H3-TA05RS28-O-MM01	7787-004	METAMORPH						
Bag 42	29	H3-TA05RS29-O-MM01	7803-001	METAMORPH	Y					H3-TA05RS29-O-C001
	29	H3-TA05RS29-O-MM01	7803-001	METAMORPH						
	29	H3-TA05RS29-O-MM01	7803-004	METAMORPH						
	29	H3-TA05RS29-O-MM01	7803-005	METAMORPH						
Bag 49	30	H3-TA08RS30-O-MM01	7800-002	METAMORPH	Y	Y	Y	Y	Y	H3-TA08RS30-O-C001
	30	H3-TA08RS30-O-MM01	7800-003	METAMORPH						
	30	H3-TA08RS30-O-MM01	7800-004	METAMORPH						
	30	H3-TA08RS30-O-MM01	7800-005	METAMORPH						
	30	H3-TA08RS30-O-MM01	7800-006	METAMORPH						
Bag 56	32	H3-TA08RS32-O-MM01	7801-001	METAMORPH	Y					H3-TA08RS32-O-C001
	32	H3-TA08RS32-O-MM01	7801-001	METAMORPH						
	32	H3-TA08RS32-O-MM01	7801-002	METAMORPH						
Bag 63	41	H9-TAWLRS41-O-MM01	7817-001	METAMORPH	Y	Y	Y	Y	Y	H9-TAWLRS41-O-C001

HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
 TISSUE SAMPLES FOR ORGANIC and METALS ANALYSES

Wood Frog Phase III Metamorph Samples

FEL Lab Location	RS Site	Weston Sample I.D. No.	FEL Lab No.	Sample Description	Total PCBs	PCB Congeners	Dioxin/Furans	Metals	PAH/OC Pest	Composite I.D.
	41	H9-TAWLRS41-0-MM01	7817-002	METAMORPH						
	41	H9-TAWLRS41-0-MM01	7817-003	METAMORPH						
	41	H9-TAWLRS41-0-MM01	7817-004	METAMORPH						
	41	H9-TAWLRS41-0-MM01	7817-005	METAMORPH						
Bag 77	43	H9-TAWLRS43-0-MM01	7896-004	METAMORPH	Y					H9-TAWLRS43-0-C001
	43	H9-TAWLRS43-0-MM01	7896-005	METAMORPH						
	43	H9-TAWLRS43-0-MM01	7896-008	METAMORPH						
	43	H9-TAWLRS43-0-MM01	7896-008	METAMORPH						

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9		10		11		12		13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2) 07/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-C001 RS20 (8-VP-1) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-C001 RS21 (38-VP-2) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-C001 RS30 (38-VP-1) 07/07/2000 0.0-0.0 EPA COE		H9-TA01RS41-0-C001 RS41 (WML-1) 07/08/2000 0.0-0.0 EPA COE	
Analyte										
APP IX PESTICIDES										
1,2,3,4-TETRACHLOROBENZENE (ng/g)	2.158 J (0)		27.715 J (0)		2.787 J (0)		0.85 J (0)		11.047 J (0)	
1,2,4,5-TETRACHLOROBENZENE (ng/g)	3.318 J (0)		23.741 J (0)		6.444 J (0)		1.119 J (0)		39.954 (0)	
4,4'-DDD (ng/g)	27.635 (0)		25.282 J (0)		2.681 J (0)		1.078 J (0)		27.778 U (0)	
4,4'-DDE (ng/g)	120.389 (0)		317.067 (0)		20.352 (0)		4.906 (0)		67.152 (0)	
4,4'-DDT (ng/g)	3.081 J (0)		4.607 J (0)		3.091 J (0)		1.186 J (0)		27.778 U (0)	
ALDRIN (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
ALPHA-BHC (ng/g)	0.278 J (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
ALPHA-CHLORDANE (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
BETA-BHC (ng/g)	0.743 J (0)		43.436 (0)		2.01 J (0)		1.298 J (0)		3.511 J (0)	
CHLORPYRIFOS (ng/g)	3.984 U (0)		28.905 J (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
CIS-NONACHLOR (ng/g)	1.658 J (0)		7.517 J (0)		2.776 J (0)		3.623 U (0)		27.778 U (0)	
DELTA-BHC (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
DIELDRIN (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
ENDOSULFAN II (ng/g)	4.531 (0)		17.379 J (0)		5.219 J (0)		3.623 U (0)		27.778 U (0)	
ENDRIN (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
GAMMA BHC (LINDANE) (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
GAMMA-CHLORDANE (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
HEPTACHLOR (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
HEPTACHLOR EPOXIDE (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
HEXACHLOROBENZENE (ng/g)	0.413 J (0)		35.714 U (0)		0.23 J (0)		0.104 J (0)		27.778 U (0)	
MIREX (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
O,P'-DDD (ng/g)	15.788 (0)		55.496 (0)		10.478 (0)		1.215 J (0)		3.166 J (0)	
O,P'-DDE (ng/g)	0.605 J (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
O,P'-DDT (ng/g)	21.83 (0)		86.235 (0)		44.167 (0)		11.422 (0)		17.778 J (0)	
OXYCHLORDANE (ng/g)	0.836 J (0)		19.94 J (0)		1.503 J (0)		0.349 J (0)		6.528 J (0)	
PENTACHLOROANISOLE (ng/g)	0.464 J (0)		35.714 U (0)		0.417 J (0)		0.403 J (0)		27.778 U (0)	
PENTACHLOROBENZENE (ng/g)	1.79 J (0)		5.834 J (0)		1.032 J (0)		0.769 J (0)		4.8 J (0)	
TOXAPHENE (ng/g)	39.8 U (0)		357.1 U (0)		76.3 U (0)		36.2 U (0)		277.8 U (0)	
TRANS-NONACHLOR (ng/g)	3.984 U (0)		35.714 U (0)		7.634 U (0)		3.623 U (0)		27.778 U (0)	
APP IX PESTICIDES, Total (ng/g)	205.517		663.154		103.187		24.699		153.936	

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9		10		11		12		13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2) 07/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-C001 RS20 (8-VP-1) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-C001 RS21 (38-VP-2) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-C001 RS30 (38-VP-1) 07/07/2000 0.0-0.0 EPA COE		H9-TA08RS41-0-C001 RS41 (WML-1) 07/08/2000 0.0-0.0 EPA COE	
Analyte	EPA COE		EPA COE		EPA COE		EPA COE		EPA COE	
DIOXINS/FURANS										
1,2,3,4,6,7,8-HPCDD (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,4,6,7,8-HPCDF (pg/g)	12.8 J (0)		357.1 U (0)		30.2 J (0)		36.2 U (0)		277.8 U (0)	
1,2,3,4,7,8,9-HPCDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,4,7,8-HXCDD (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,4,7,8-HXCDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,6,7,8-HXCDD (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,6,7,8-HXCDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,7,8,9-HXCDD (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,7,8,9-HXCDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,7,8-PECDD (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
1,2,3,7,8-PECDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		8.5 J (0)		277.8 U (0)	
2,3,4,6,7,8-HXGDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
2,3,4,7,8-PECDF (pg/g)	39.7 U (0)		357.1 U (0)		75.8 U (0)		36.2 U (0)		277.8 U (0)	
2,3,7,8-TCDD (pg/g)	7.9 U (0)		71.4 U (0)		15.2 U (0)		7.2 U (0)		55.6 U (0)	
2,3,7,8-TCDF (pg/g)	7.9 U (0)		63 J (0)		28.1 (0)		12.7 (0)		55.6 U (0)	
OCDD (pg/g)	79.4 U (0)		714.3 U (0)		151.5 U (0)		72.5 U (0)		555.6 U (0)	
OCDF (pg/g)	79.4 U (0)		714.3 U (0)		151.5 U (0)		72.5 U (0)		555.6 U (0)	
DIOXINS/FURANS, Total (pg/g)	12.8		63		58.3		21.2		U	

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID	RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9	10	11	12	13			
H3-TA04RS27-0-C001	H2-TA02RS20-0-C001	H3-TA08RS21-0-C001	H3-TA08RS30-0-C001	H3-TA08RS41-0-C001				
RS27 (18-VP-2)	RS20 (8-VP-1)	RS21 (38-VP-2)	RS30 (38-VP-1)	RS41 (VWL-1)				
07/06/2000	07/07/2000	07/07/2000	07/07/2000	07/08/2000				
Depth	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0			
Source	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE			
Analyte								
METALS								
ALUMINUM (ug/g)	18.49 (0)	83.42 (0)	92.41 (0)	116.47 (0)	27.01 J (0)			
ARSENIC (ug/g)	0.27 J (0)	0.67 J (0)	0.16 J (0)	0.19 J (0)	0.43 J (0)			
BARIUM (ug/g)	24.51 (0)	27.52 (0)	27.02 (0)	31.12 (0)	109.43 (0)			
BERYLLIUM (ug/g)	0.24 U (0)	0.39 U (0)	0.21 U (0)	0.27 U (0)	0.63 U (0)			
CADMIUM (ug/g)	0.08 J (0)	0.05 J (0)	0.13 J (0)	0.32 (0)	0.1 J (0)			
CHROMIUM (ug/g)	21.46 (0)	4.7 (0)	8.21 (0)	7.4 (0)	7.46 (0)			
COPPER (ug/g)	3.07 (0)	3.3 (0)	5.52 (0)	6.22 (0)	0.46 J (0)			
IRON (ug/g)	141.37 (0)	261.18 (0)	282.53 (0)	298.63 (0)	243.26 (0)			
LEAD (ug/g)	0.98 J (0)	1.85 J (0)	1.28 (0)	1.04 J (0)	0.56 J (0)			
MAGNESIUM (ug/g)	1137.38 (0)	1095.85 (0)	1170.86 (0)	1230.57 (0)	1261.86 (0)			
MANGANESE (ug/g)	19.32 (0)	10.54 (0)	26.2 (0)	44.48 (0)	12.34 (0)			
MERCURY (ug/g)	0.25 J (0)	0.15 J (0)	0.27 J (0)	0.65 J (0)	0.06 J (0)			
NICKEL (ug/g)	1.2 U (0)	1.94 U (0)	1.65 (0)	0.51 J (0)	3.13 U (0)			
SELENIUM (ug/g)	1.61 (0)	2.24 (0)	1.63 (0)	1.65 (0)	1.23 J (0)			
STRONTIUM (ug/g)	8.43 (0)	6.39 (0)	11.58 (0)	12.42 (0)	17.91 (0)			
VANADIUM (ug/g)	0.84 J (0)	1.94 U (0)	0.3 J (0)	0.31 J (0)	3.13 U (0)			
ZINC (ug/g)	92.65 (0)	91.3 (0)	95.02 (0)	116.07 (0)	126.4 (0)			
ORGANIC								
PERCENT LIPIDS (GC) (%)	3.9 (0)	1.5 (0)	1.1 (0)	0.8 (0)	2.6 (0)			
PERCENT LIPIDS (GC/MS) (%)	3.9 (0)	1.5 (0)	1.1 (0)	0.8 (0)	2.6 (0)			
PERCENT LIPIDS (OTHER) (%)	3.9 (0)	1.5 (0)	1.1 (0)	0.8 (0)	2.6 (0)			

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9	10	11	12	13	14	15	16	17	18
H3-TA04RS27-0-C001	H2-TA02RS20-0-C001	H3-TA08RS21-0-C001	H3-TA08RS30-0-C001	H3-TA08RS41-0-C001	H3-TA08RS50-0-C001	H3-TA08RS60-0-C001	H3-TA08RS70-0-C001	H3-TA08RS80-0-C001	H3-TA08RS90-0-C001	H3-TA08RS00-0-C001
RS27 (18-VP-2)	RS20 (8-VP-1)	RS21 (38-VP-2)	RS30 (38-VP-1)	RS41 (WML-1)	RS50 (38-VP-1)	RS60 (38-VP-1)	RS70 (38-VP-1)	RS80 (38-VP-1)	RS90 (38-VP-1)	RS00 (38-VP-1)
07/06/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/08/2000
0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0
EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE
Analyte										
PAHS										
1,6,7-TRIMETHYLNAPHTHALENE (ng/g)	9 (0)	4 J (0)	2 J (0)	0.6 J (0)	4.6 J (0)	1.5 J (0)	1.3 J (0)	1.1 J (0)	0.7 J (0)	0.6 J (0)
1-METHYLNAPHTHALENE (ng/g)	28.8 (0)	15.5 J (0)	3.9 J (0)	1.5 J (0)	11.3 J (0)	6.4 J (0)	5.1 J (0)	4.2 J (0)	3.3 J (0)	2.4 J (0)
1-METHYLPHENANTHRENE (ng/g)	30.3 (0)	2.9 J (0)	2.9 J (0)	0.7 J (0)	6.4 J (0)	3.3 J (0)	2.4 J (0)	1.9 J (0)	1.4 J (0)	1.0 J (0)
2,6-DIMETHYLNAPHTHALENE (ng/g)	19.6 (0)	5.8 J (0)	2.7 J (0)	1.1 J (0)	7.1 J (0)	3.5 J (0)	2.6 J (0)	2.0 J (0)	1.5 J (0)	1.1 J (0)
2-METHYLNAPHTHALENE (ng/g)	46.5 (0)	22.8 J (0)	5.2 J (0)	2.6 J (0)	13.5 J (0)	6.4 J (0)	4.9 J (0)	3.8 J (0)	2.9 J (0)	2.1 J (0)
ACENAPHTHENE (ng/g)	16.5 (0)	5.9 J (0)	2.8 J (0)	0.5 J (0)	1.9 J (0)	0.9 J (0)	0.7 J (0)	0.5 J (0)	0.4 J (0)	0.3 J (0)
ACENAPHTHYLENE (ng/g)	11.3 (0)	8 J (0)	2.5 J (0)	1.3 J (0)	2.2 J (0)	1.0 J (0)	0.8 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)
ANTHRACENE (ng/g)	15.7 (0)	7.5 J (0)	2.7 J (0)	1.3 J (0)	2.7 J (0)	1.1 J (0)	0.9 J (0)	0.7 J (0)	0.5 J (0)	0.4 J (0)
BENZO(A)ANTHRACENE (ng/g)	5.2 (0)	3.6 J (0)	3.7 J (0)	1.1 J (0)	2.5 J (0)	1.0 J (0)	0.8 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)
BENZO(A)PYRENE (ng/g)	14.4 (0)	3.9 J (0)	5.3 J (0)	1.7 J (0)	1.8 J (0)	0.7 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)	0.3 J (0)
BENZO(B)FLUORANTHENE (ng/g)	1.1 J (0)	5.5 J (0)	5.5 J (0)	1.5 J (0)	2.5 J (0)	1.0 J (0)	0.8 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)
BENZO(E)PYRENE (ng/g)	4.8 (0)	2.8 J (0)	3 J (0)	0.9 J (0)	1.4 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)	0.3 J (0)	0.2 J (0)
BENZO(GH)PERYLENE (ng/g)	2.5 (0)	3 J (0)	2.7 J (0)	0.1 J (0)	2 J (0)	0.8 J (0)	0.6 J (0)	0.5 J (0)	0.4 J (0)	0.3 J (0)
BENZO(K)FLUORANTHENE (ng/g)	2.5 J (0)	2.6 J (0)	1.5 J (0)	0.7 J (0)	0.4 J (0)	0.3 J (0)	0.2 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)
BIPHENYL (DIPHENYL) (ng/g)	35.2 (0)	19.8 J (0)	4.6 J (0)	2.4 J (0)	25.3 J (0)	10.1 J (0)	7.7 J (0)	6.1 J (0)	4.9 J (0)	3.7 J (0)
C1-CHRYSENE (ng/g)	10.4 (0)	3.2 J (0)	1.6 J (0)	0.9 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)
C1-DIBENZOTHIOPHENES (ng/g)	7.7 (0)	0.5 J (0)	1.1 J (0)	0.2 J (0)	0.3 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)
C1-FLUORANTHENE & PYRENE (ng/g)	0.5 J (0)	0.4 J (0)	1.9 J (0)	0.1 J (0)	1 J (0)	0.4 J (0)	0.3 J (0)	0.2 J (0)	0.1 J (0)	0.1 J (0)
C1-FLUORENES (ng/g)	40.5 (0)	1.9 J (0)	5.6 J (0)	3.5 J (0)	13 J (0)	5.1 J (0)	3.9 J (0)	3.0 J (0)	2.3 J (0)	1.7 J (0)
C1-NAPHTHALENES (ng/g)	75.3 (0)	38.3 J (0)	9.1 J (0)	4.2 J (0)	24.9 J (0)	9.7 J (0)	7.3 J (0)	5.6 J (0)	4.3 J (0)	3.3 J (0)
C1-PHENANTHRENE & ANTHRACENE (ng/g)	15.3 (0)	15 J (0)	5.9 J (0)	3 J (0)	14.9 J (0)	5.4 J (0)	4.0 J (0)	3.1 J (0)	2.4 J (0)	1.8 J (0)
C2-CHRYSENE (ng/g)	0.2 J (0)	0.4 J (0)	1.2 J (0)	0.7 J (0)	0.3 J (0)	0.2 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)
C2-DIBENZOTHIOPHENES (ng/g)	0.8 J (0)	0.2 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9	10	11	12	13	13	13	13	13	13
H3-TA04RS27-0-C001	H2-TA02RS20-0-C001	H3-TA08RS21-0-C001	H3-TA08RS30-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001	H3-TA08RS41-0-C001
RS27 (18-VP-2)	RS20 (8-VP-1)	RS21 (38-VP-2)	RS30 (38-VP-1)	RS41 (WML-1)	RS41 (WML-1)	RS41 (WML-1)	RS41 (WML-1)	RS41 (WML-1)	RS41 (WML-1)	RS41 (WML-1)
07/06/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000	07/07/2000
0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0
EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE
Analyte	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
C2-FLUORENES (ng/g)	88.5 (0)	3.8 J (0)	1.5 J (0)	0.8 J (0)	4.1 J (0)	4.1 J (0)	4.1 J (0)	4.1 J (0)	4.1 J (0)	4.1 J (0)
C2-NAPHTHALENES (ng/g)	56.8 (0)	17.4 J (0)	8.2 J (0)	2.1 J (0)	21.6 J (0)	21.6 J (0)	21.6 J (0)	21.6 J (0)	21.6 J (0)	21.6 J (0)
C2-PHENANTHRENES & ANTHRACENES (n)	0.8 J (0)	64.7 U (0)	4.6 J (0)	1 J (0)	1.4 J (0)	1.4 J (0)	1.4 J (0)	1.4 J (0)	1.4 J (0)	1.4 J (0)
C3-CHRYSENES (ng/g)	0.6 J (0)	0.4 J (0)	0.2 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)
C3-DIBENZOTHIOPHENES (ng/g)	1.2 J (0)	0.1 J (0)	0.2 J (0)	0.1 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)
C3-FLUORENES (ng/g)	2.2 J (0)	6.1 J (0)	1.5 J (0)	0.5 J (0)	2.9 J (0)	2.9 J (0)	2.9 J (0)	2.9 J (0)	2.9 J (0)	2.9 J (0)
C3-NAPHTHALENES (ng/g)	29.9 (0)	1.3 J (0)	6.8 J (0)	1.5 J (0)	9.5 J (0)	9.5 J (0)	9.5 J (0)	9.5 J (0)	9.5 J (0)	9.5 J (0)
C3-PHENANTHRENES & ANTHRACENES (n)	1 J (0)	0.2 J (0)	1.8 J (0)	0.1 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)
C4-CHRYSENES (ng/g)	1.6 J (0)	0.3 J (0)	0.3 J (0)	0.1 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)
C4-NAPHTHALENES (ng/g)	0.3 J (0)	1.6 J (0)	0.9 J (0)	0.1 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)	0.2 J (0)
C4-PHENANTHRENES & ANTHRACENES (n)	1.2 J (0)	0.1 J (0)	0.1 J (0)	0.1 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)	0.4 J (0)
CHRYSENE (ng/g)	3.2 J (0)	4.3 J (0)	4.9 J (0)	1.2 J (0)	2 J (0)	2 J (0)	2 J (0)	2 J (0)	2 J (0)	2 J (0)
DIBENZO(A,H)ANTHRACENE (ng/g)	0.9 J (0)	0.4 J (0)	0.6 J (0)	0.2 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)	0.5 J (0)
DIBENZOTHIOPHENE (ng/g)	4.5 (0)	1.4 J (0)	0.7 J (0)	0.3 J (0)	1.2 J (0)	1.2 J (0)	1.2 J (0)	1.2 J (0)	1.2 J (0)	1.2 J (0)
FLUORANTHENE (ng/g)	7.2 (0)	7.1 J (0)	8.1 (0)	2.1 J (0)	5.1 J (0)	5.1 J (0)	5.1 J (0)	5.1 J (0)	5.1 J (0)	5.1 J (0)
FLUORENE (ng/g)	32 (0)	13 J (0)	4.1 J (0)	2.4 J (0)	11.1 J (0)	11.1 J (0)	11.1 J (0)	11.1 J (0)	11.1 J (0)	11.1 J (0)
INDENO(1,2,3-C,D)PYRENE (ng/g)	0.5 J (0)	0.4 J (0)	0.1 J (0)	1.7 (0)	4 J (0)	4 J (0)	4 J (0)	4 J (0)	4 J (0)	4 J (0)
NAPHTHALENE (ng/g)	98.2 (0)	62.9 J (0)	16.4 (0)	7.8 (0)	54.8 (0)	54.8 (0)	54.8 (0)	54.8 (0)	54.8 (0)	54.8 (0)
PERYLENE (ng/g)	14.7 (0)	1.9 J (0)	2.7 J (0)	0.4 J (0)	1 J (0)	1 J (0)	1 J (0)	1 J (0)	1 J (0)	1 J (0)
PHENANTHRENE (ng/g)	34.6 (0)	16 J (0)	6 J (0)	3 J (0)	12.9 J (0)	12.9 J (0)	12.9 J (0)	12.9 J (0)	12.9 J (0)	12.9 J (0)
PYRENE (ng/g)	6.6 (0)	7.6 J (0)	7.9 (0)	2.1 J (0)	4.6 J (0)	4.6 J (0)	4.6 J (0)	4.6 J (0)	4.6 J (0)	4.6 J (0)
PAHS, Total (ng/g)	780.6	319.8	155.1	57.7	280	280	280	280	280	280

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9		10		11		12		13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2) 07/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-C001 RS20 (8-VP-1) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-C001 RS21 (38-VP-2) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-C001 RS30 (38-VP-1) 07/07/2000 0.0-0.0 EPA COE		H9-TA01RS41-0-C001 RS41 (WML-1) 07/08/2000 0.0-0.0 EPA COE	
Analyte										
PCB CONGENERS										
PCB-1 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.321 (0)		0.2778 U (0)	
PCB-101/90 (ng/g)	139.921 (0)		701.15 (0)		175.131 (0)		11.133 (0)		66.147 (0)	
PCB-105 (ng/g)	28.893 (0)		177.957 (0)		51.788 (0)		16.578 (0)		31.753 (0)	
PCB-107 (ng/g)	9.764 (0)		28.67 (0)		8.384 (0)		1.268 (0)		4.987 (0)	
PCB-110 (ng/g)	8.512 (0)		78.811 (0)		13.355 (0)		1.778 (0)		2.902 (0)	
PCB-114 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-118 (ng/g)	114.159 (0)		568.399 (0)		137.48 (0)		60.234 (0)		134.935 (0)	
PCB-119 (ng/g)	5.914 (0)		27.195 (0)		3.976 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-126 (ng/g)	0.034 J (0)		0.155 J (0)		0.064 J (0)		0.019 J (0)		0.094 J (0)	
PCB-128 (ng/g)	42.822 (0)		198.417 (0)		90.365 (0)		29.893 (0)		44.486 (0)	
PCB-129 (ng/g)	2.438 (0)		3.08 (0)		1.58 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-130 (ng/g)	11.787 (0)		52.875 (0)		24.806 (0)		8.673 (0)		11.255 (0)	
PCB-135 (ng/g)	40.356 (0)		162.064 (0)		58.59 (0)		4.344 (0)		20.771 (0)	
PCB-136 (ng/g)	6.844 (0)		27.312 (0)		5.968 (0)		0.628 (0)		2.019 (0)	
PCB-138/160 (ng/g)	173.469 (0)		877.42 (0)		351.188 (0)		95.317 (0)		489.608 (0)	
PCB-141/179 (ng/g)	132.892 (0)		345.957 (0)		167.759 (0)		12.167 (0)		28.66 (0)	
PCB-146 (ng/g)	48.557 (0)		656.706 (0)		104.539 (0)		73.942 (0)		135.194 (0)	
PCB-149/123 (ng/g)	76.527 (0)		1012.685 (0)		102.97 (0)		19.871 (0)		84.305 (0)	
PCB-15 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-151 (ng/g)	84.905 (0)		262.707 (0)		110.701 (0)		7.251 (0)		20.502 (0)	
PCB-153/132 (ng/g)	243.225 (0)		1268.091 (0)		512.694 (0)		156.39 (0)		820.494 (0)	
PCB-156 (ng/g)	33.557 (0)		149.363 (0)		57.662 (0)		28.168 (0)		35.142 (0)	
PCB-158 (ng/g)	71.958 (0)		277.461 (0)		144.971 (0)		45.727 (0)		59.263 (0)	
PCB-16/32 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-166 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.608 (0)		0.2778 U (0)	
PCB-167 (ng/g)	17.598 (0)		76.218 (0)		46.665 (0)		24.766 (0)		17.625 (0)	
PCB-169 (ng/g)	0.001 J (0)		0.065 J (0)		0.006 J (0)		0.01 J (0)		0.082 J (0)	
PCB-170/190 (ng/g)	61.163 (0)		660.505 (0)		159.815 (0)		72.075 (0)		160.832 (0)	
PCB-171/202 (ng/g)	58.589 (0)		227.202 (0)		123.367 (0)		33.454 (0)		50.295 (0)	
PCB-172 (ng/g)	36.445 (0)		141.149 (0)		85.79 (0)		16.882 (0)		30.824 (0)	
PCB-174 (ng/g)	83.175 (0)		267.209 (0)		114.699 (0)		13.086 (0)		26.551 (0)	

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C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9		10		11		12		13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2) 07/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-C001 RS20 (8-VP-1) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-C001 RS21 (38-VP-2) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-C001 RS30 (38-VP-1) 07/07/2000 0.0-0.0 EPA COE		H9-TA01RS41-0-C001 RS41 (WML-1) 07/08/2000 0.0-0.0 EPA COE	
Analyte										
PCB-175 (ng/g)	7.995 (0)		35.726 (0)		17.527 (0)		3.532 (0)		9.32 (0)	
PCB-176/137 (ng/g)	17.251 (0)		49.819 (0)		27.861 (0)		1.64 (0)		3.785 (0)	
PCB-177 (ng/g)	89.044 (0)		343.244 (0)		162.669 (0)		20.089 (0)		57.928 (0)	
PCB-178 (ng/g)	45.775 (0)		182.052 (0)		100.315 (0)		22.798 (0)		42.577 (0)	
PCB-18/17 (ng/g)	0.0398 U (0)		6.588 (0)		0.0763 U (0)		2.674 (0)		0.2778 U (0)	
PCB-180 (ng/g)	194.202 (0)		814.416 (0)		500.145 (0)		198.069 (0)		469.067 (0)	
PCB-183 (ng/g)	102.055 (0)		409.886 (0)		232.36 (0)		83.107 (0)		88.979 (0)	
PCB-185 (ng/g)	12.669 (0)		32.825 (0)		14.097 (0)		2.036 (0)		3.564 (0)	
PCB-187 (ng/g)	137.597 (0)		798.561 (0)		282.305 (0)		72.123 (0)		524.781 (0)	
PCB-189 (ng/g)	6.006 (0)		24.69 (0)		16.038 (0)		8.331 (0)		5.834 (0)	
PCB-191 (ng/g)	9.378 (0)		35.668 (0)		20.842 (0)		11.023 (0)		5.783 (0)	
PCB-193 (ng/g)	38.874 (0)		154.643 (0)		82.136 (0)		31.819 (0)		34.904 (0)	
PCB-194 (ng/g)	108.678 (0)		415.656 (0)		283.351 (0)		52.018 (0)		105.32 (0)	
PCB-195/208 (ng/g)	50.064 (0)		176.48 (0)		111.998 (0)		51.809 (0)		68.42 (0)	
PCB-197 (ng/g)	3.699 (0)		12.899 (0)		8.38 (0)		2.343 (0)		2.632 (0)	
PCB-199 (ng/g)	110.68 (0)		441.613 (0)		245.031 (0)		62.937 (0)		105.837 (0)	
PCB-200 (ng/g)	4.496 (0)		14.231 (0)		5.495 (0)		1.186 (0)		0.2778 U (0)	
PCB-201/157/173 (ng/g)	14.486 (0)		46.196 (0)		30.309 (0)		7.399 (0)		10.217 (0)	
PCB-203/196 (ng/g)	127.154 (0)		490.5 (0)		122.682 (0)		134.773 (0)		118.883 (0)	
PCB-205 (ng/g)	6.463 (0)		29.177 (0)		18.316 (0)		9.36 (0)		6.976 (0)	
PCB-206 (ng/g)	26.889 (0)		105.406 (0)		61.539 (0)		30.901 (0)		26.419 (0)	
PCB-207 (ng/g)	2.775 (0)		12.242 (0)		6.591 (0)		2.547 (0)		4.259 (0)	
PCB-209 (ng/g)	2.739 (0)		14.218 (0)		5.972 (0)		2.713 (0)		7.906 (0)	
PCB-22/51 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-24/27 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-25 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-26 (ng/g)	3.661 (0)		355.536 (0)		11.82 (0)		0.509 (0)		94.219 (0)	
PCB-28 (ng/g)	2.264 (0)		13.241 (0)		2.065 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-29 (ng/g)	0.751 (0)		32.196 (0)		2.463 (0)		0.0362 U (0)		15.631 (0)	
PCB-30 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-31 (ng/g)	0.57 (0)		3.291 (0)		0.329 (0)		0.791 (0)		0.2778 U (0)	
PCB-33/20 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	

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G-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002546 9		RFW0002546 10		RFW0002546 11		RFW0002546 12		RFW0002546 13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2)		H2-TA02RS20-0-C001 RS20 (8-VP-1)		H3-TA03RS21-0-C001 RS21 (38-VP-2)		H3-TA08RS30-0-C001 RS30 (38-VP-1)		H9-TA07RS41-0-C001 RS41 (WML-1)	
	07/06/2000 0.0-0.0 EPA COE		07/07/2000 0.0-0.0 EPA COE		07/07/2000 0.0-0.0 EPA COE		07/07/2000 0.0-0.0 EPA COE		07/08/2000 0.0-0.0 EPA COE	
Analyte										
PCB-39 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-40 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-41/64 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-42/59/37 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-44 (ng/g)	0.309 (0)		3.588 (0)		0.0763 U (0)		0.0362 U (0)		2.873 (0)	
PCB-45 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-46 (ng/g)	0.0398 U (0)		15.608 (0)		0.623 (0)		0.0362 U (0)		4.678 (0)	
PCB-47/75 (ng/g)	31.328 (0)		155.339 (0)		31.16 (0)		4.831 (0)		23.821 (0)	
PCB-48 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-49 (ng/g)	10.655 (0)		75.768 (0)		7.887 (0)		0.624 (0)		3.053 (0)	
PCB-52 (ng/g)	17.044 (0)		153.667 (0)		15.576 (0)		1.699 (0)		12.789 (0)	
PCB-53 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-56/60 (ng/g)	1.177 (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-63 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-66 (ng/g)	9.545 (0)		41.357 (0)		10.586 (0)		3.693 (0)		13.116 (0)	
PCB-67 (ng/g)	5.117 (0)		15.508 (0)		3.014 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-69 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-7/9 (ng/g)	0.0398 U (0)		0.3571 U (0)		1.482 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-70 (ng/g)	7.093 (0)		35.453 (0)		4.613 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-72 (ng/g)	2.841 (0)		7.489 (0)		2.544 (0)		0.416 (0)		5.444 (0)	
PCB-74/61 (ng/g)	4.945 (0)		26.803 (0)		3.559 (0)		2.24 (0)		0.317 (0)	
PCB-77 (ng/g)	0.017 J (0)		0.132 J (0)		0.03 J (0)		0.005 J (0)		0.317 (0)	
PCB-8/5 (ng/g)	0.0398 U (0)		2.385 (0)		0.0763 U (0)		0.38 (0)		2.174 (0)	
PCB-81 (ng/g)	0.002 J (0)		0.116 J (0)		0.013 J (0)		0.0362 U (0)		0.059 J (0)	
PCB-82 (ng/g)	2.065 (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-83 (ng/g)	1.982 (0)		130.509 (0)		3.593 (0)		0.0362 U (0)		41.282 (0)	
PCB-84 (ng/g)	0.0398 U (0)		0.3571 U (0)		0.0763 U (0)		0.0362 U (0)		0.2778 U (0)	
PCB-85 (ng/g)	0.0398 U (0)		33.337 (0)		13.886 (0)		1.069 (0)		4.544 (0)	
PCB-87/115 (ng/g)	10.279 (0)		57.185 (0)		10.943 (0)		1.215 (0)		5.627 (0)	
PCB-91/55 (ng/g)	2.864 (0)		26.896 (0)		1.912 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-92 (ng/g)	30.548 (0)		165.467 (0)		50.432 (0)		4.412 (0)		19.215 (0)	
PCB-95/80 (ng/g)	21.104 (0)		156.345 (0)		19.435 (0)		1.914 (0)		15.045 (0)	

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002546		RFW0002546		RFW0002546		RFW0002546		RFW0002546	
	9		10		11		12		13	
	H3-TA04RS27-0-C001 RS27 (18-VP-2) 07/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-C001 RS20 (8-VP-1) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-C001 RS21 (38-VP-2) 07/07/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-C001 RS30 (38-VP-1) 07/07/2000 0.0-0.0 EPA COE		H9-TAWLRS41-0-C001 RS41 (WML-1) 07/08/2000 0.0-0.0 EPA COE	
Analyte										
PCB-97 (ng/g)	2.738 (0)		14.623 (0)		2.522 (0)		0.0362 U (0)		0.2778 U (0)	
PCB-99 (ng/g)	101.989 (0)		547.335 (0)		142.524 (0)		33.499 (0)		104.865 (0)	
TOTAL DCB (ng/g)	2.7 J (0)		14.2 J (0)		6 J (0)		2.7 J (0)		7.9 J (0)	
TOTAL DiCB (ng/g)	39.8 U (0)		2.4 J (0)		1.5 J (0)		0.4 J (0)		6.1 J (0)	
TOTAL HPCB (ng/g)	990.2 (0)		4177.6 (0)		1940 (0)		590.1 (0)		1515 (0)	
TOTAL HXCB (ng/g)	986.9 (0)		5370.4 (0)		1780.5 (0)		508.2 (0)		1772.7 (0)	
TOTAL MCB (ng/g)	39.8 U (0)		357.1 U (0)		76.3 U (0)		0.3 J (0)		277.8 U (0)	
TOTAL NCB (ng/g)	29.7 J (0)		117.6 J (0)		68.1 J (0)		33.4 J (0)		30.7 J (0)	
TOTAL OCB (ng/g)	425.7 (0)		1626.8 (0)		825.6 (0)		321.8 (0)		418.3 (0)	
TOTAL PCB (ng/g)	477.9 (0)		2687 (0)		633.4 (0)		133.1 (0)		431.3 (0)	
TOTAL TCB (ng/g)	101.2 (0)		593.7 (0)		93.3 (0)		16.4 J (0)		74 J (0)	
TOTAL TRICB (ng/g)	7.2 J (0)		410.9 (0)		16.7 J (0)		4 J (0)		109.9 J (0)	
PCBS										
AROCLOR-1242 (ng/g)	39.8 U (0)		357.1 U (0)		76.3 U (0)		36.2 U (0)		277.8 U (0)	
AROCLOR-1248 (ng/g)	39.8 U (0)		357.1 U (0)		76.3 U (0)		36.2 U (0)		277.8 U (0)	
AROCLOR-1254 (ng/g)	586.3 (0)		3750.1 (0)		268.2 (0)		36.2 U (0)		654.9 (0)	
AROCLOR-1260 (ng/g)	2345.2 (0)		11250.4 (0)		5096.7 (0)		1610.4 (0)		3711 (0)	
PCB, TOTAL (ng/g)	2931.6		15000.5		5365		1610.4		4365.9	

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002542	RFW0002542	RFW0002542	RFW0002542	RFW0002542
	9	10	15	16	17
	H3-TA08RS30-0-MM02 RS30 (38-VP-1) 05/30/2000 0.0-0.0 EPA COE	H3-TA04RS27-0-TP03 RS27 (18-VP-2) 05/31/2000 0.0-0.0 EPA COE	H3-TA08RS30-0-EM01 RS30 (38-VP-1) 04/05/2000 0.0-0.0 EPA COE	H3-TA08RS30-0-EM03 RS30 (38-VP-1) 04/05/2000 0.0-0.0 EPA COE	H3-TA08RS30-0-EM05 RS30 (38-VP-1) 04/05/2000 0.0-0.0 EPA COE
Analyte					
ORGANIC					
PERCENT LIPIDS (GC) (%)	1 (11)	0.2 (11)	0.1 U (11)	0.3 (11)	0.1 U (11)
PCBS					
AROCOLOR-1242 (ng/g)	42 U (11)	31.5 U (11)	49 U (11)	49 U (11)	39.5 U (11)
AROCOLOR-1248 (ng/g)	42 U (11)	31.5 U (11)	49 U (11)	49 U (11)	39.5 U (11)
AROCOLOR-1254 (ng/g)	42 U (11)	68 (11)	49 U (11)	49 U (11)	39.5 U (11)
AROCOLOR-1260 (ng/g)	42 U (11)	170.1 (11)	60.6 (11)	74.6 (11)	45.6 (11)
PCB, TOTAL (ng/g)	4561.6	170.1	60.6	74.6	45.6

Field Sample ID Symbols:

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MM=Metamorph, Phase I
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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected	RFW0002542 18		RFW0002542 19		RFW0002542 20		RFW0002544 1		RFW0002544 2	
	H3-TA08RS29-0-EM01 RS29 (23B-VP-2) 04/06/2000 0.0-0.0 EPA COE		H2-TA02RS20-0-EM08 RS20 (8-VP-1) 04/07/2000 0.0-0.0 EPA COE		H3-TA08RS22-0-EM09 RS22 (46-VP-5) 06/02/2000 0.0-0.0 EPA COE		H3-TA10RS22-0-TP18 RS22 (46-VP-5) 06/02/2000 0.0-0.0 EPA COE		H3-TA08RS32-0-TP05 RS32 (46-VP-1) 06/02/2000 0.0-0.0 EPA COE	
Analyte										
ORGANIC										
PERCENT LIPIDS (GC) (%)	0.1 (11)		0.2 (11)		0.4 (11)		1.3 (11)		1.4 (11)	
PCBS										
AROCOR-1242 (ng/g)	43.5 U (11)		42.2 U (11)		48.3 U (11)		76.9 U (11)		88.5 U (11)	
AROCOR-1248 (ng/g)	43.5 U (11)		42.2 U (11)		48.3 U (11)		76.9 U (11)		24 J (11)	
AROCOR-1254 (ng/g)	43.5 U (11)		42.2 U (11)		48.3 U (11)		61.7 J (11)		12 J (11)	
AROCOR-1260 (ng/g)	1217 (11)		392.8 (11)		29.2 J (11)		349.9 (11)		84.1 J (11)	
PCB, TOTAL (ng/g)	1217		392.8		29.2		411.7		120.2	

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002544 3		RFW0002544 4		RFW0002544 5		RFW0002544 6	
	H2-TA02RS20-0-MM08		H3-TA08RS21-0-MC01		H3-TA08RS30-0-MC01		H9-TAWLRS41-0-TP03	
Date Collected	RS20 (8-VP-1)		RS21 (38-VP-2)		RS30 (38-VP-1)		RS41 (WML-1)	
Depth	06/06/2000		06/06/2000		06/06/2000		06/07/2000	
Source	0.0-0.0		0.0-0.0		0.0-0.0		0.0-0.0	
Analyte	EPA COE		EPA COE		EPA COE		EPA COE	
ORGANIC								
PERCENT LIPIDS (GC) (%)	1.1 (11)		1.4 (11)		3 (11)		0.8 (11)	
PCBS								
AROCOR-1242 (ng/g)	93.5 U (11)		93.5 U (11)		86.2 U (11)		89.3 U (11)	
AROCOR-1248 (ng/g)	93.5 U (11)		5.3 J (11)		86.2 U (11)		89.3 U (11)	
AROCOR-1254 (ng/g)	1167 (11)		13.3 J (11)		16.4 J (11)		89.3 U (11)	
AROCOR-1260 (ng/g)	4667.9 (11)		34.6 J (11)		92.7 (11)		89.3 U (11)	
PCB, TOTAL (ng/g)	5834.9		53.5		109		25	

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HOUSATONIC RIVER PROJECT
 VERNAL POOL STUDY 2000
 TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID		RFW0002544
C-of-C Item		7
Field Sample ID		H3-TA08RS32-0-MM04
Sample Location: Weston (Woodlot)		RS32 (46-VP-1)
Date Collected		06/08/2000
Depth		0.0-0.0
Source		EPA_COE
Analyte		
ORGANIC		
PERCENT LIPIDS (GC) (%)		
0.4 (11)		
PCBS		
AROCOR-1242 (ng/g)		
117.6 U (11)		
AROCOR-1248 (ng/g)		
117.6 U (11)		
AROCOR-1254 (ng/g)		
117.6 U (11)		
AROCOR-1260 (ng/g)		
117.6 U (11)		
PCB, TOTAL (ng/g)		
59.1		

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002544		RFW0002544		RFW0002544	
	8		9		10	
	H9-TAWLRS42-0-MM05		H9-TAWLRS43-0-TP03		H3-TA05RS29-0-MM02	
	RS42 (WML-2)		RS43 (WML-3)		RS29 (23B-VP-2)	
Date Collected	06/08/2000		06/14/2000		06/19/2000	
Depth	0.0-0.0		0.0-0.0		0.0-0.0	
Source	EPA COE		EPA COE		EPA COE	
Analyte						
ORGANIC						
PERCENT LIPIDS (GC) (%)	1.9 (11)		2 (11)		1.8 (11)	
PCBS						
AROCOR-1242 (ng/g)	95.2 U (11)		81.3 U (11)		96.2 U (11)	
AROCOR-1248 (ng/g)	95.2 U (11)		81.3 U (11)		96.2 U (11)	
AROCOR-1254 (ng/g)	95.2 U (11)		81.3 U (11)		96.2 U (11)	
AROCOR-1260 (ng/g)	95.2 U (11)		81.3 U (11)		96.2 U (11)	
PCB, TOTAL (ng/g)	242		40.6		85.1	
					525.7	

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HOUSATONIC RIVER PROJECT
 VERNAL POOL STUDY 2000
 TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID		RFW0002544
C-of-C Item		12
Field Sample ID		H3-TA08RS30-0-MM03
Sample Location: Weston (Woodlot)		RS30 (38-VP-1)
Date Collected		06/20/2000
Depth		0.0-0.0
Source		EPA COE
Analyte		
ORGANIC		
PERCENT LIPIDS (GC) (%)		2.4 (11)
PCBS		
AROCOR-1242 (ng/g)		48.5 U (11)
AROCOR-1248 (ng/g)		48.5 U (11)
AROCOR-1254 (ng/g)		521.5 (11)
AROCOR-1260 (ng/g)		4693.2 (11)
PCB, TOTAL (ng/g)		5214.6

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID Field Sample ID Sample Location: Weston (Woodlot)	RFW0002544		RFW0002544		RFW0002544	
	13	14	15	16	17	18
Date Collected	H3-TA08RS21-Q-MM06	H9-TAWLRS43-0-MM03	H3-TA08RS30-0-TP03	H9-TAWLRS42-0-MC01		
Depth	RS21 (38-VP-2)	RS43 (WML-3)	RS30 (38-VP-1)	RS42 (WML-2)		
Source	06/22/2000	06/22/2000	06/22/2000	06/23/2000		
Analyte	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0		
ORGANIC	EPA COE	EPA COE	EPA COE	EPA COE		
PERCENT LIPIDS (GC) (%)	2.3 (11)	4.1 (11)	2.7 (11)	2 (11)		
PCBS						
AROCOR-1242 (ng/g)	47.8 U (11)	163.9 U (11)	46.9 U (11)	82.6 U (11)		
AROCOR-1248 (ng/g)	47.8 U (11)	163.9 U (11)	46.9 U (11)	82.6 U (11)		
AROCOR-1254 (ng/g)	991.3 (11)	163.9 U (11)	2600.4 (11)	782.1 (11)		
AROCOR-1260 (ng/g)	5617.3 (11)	163.9 U (11)	7801.2 (11)	7039.2 (11)		
PCB, TOTAL (ng/g)	6608.6	138.1	10401.6	7821.3		

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HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID		RFW0002544
C-of-C Item		17
Field Sample ID		H9-TAWLRS41-0-MM03
Sample Location: Weston (Woodlot)		RS41 (WML-1)
Date Collected		06/26/2000
Depth		0.0-0.0
Source		EPA COE
Analyte		
ORGANIC		
PERCENT LIPIDS (GC) (%)		
3.4 (11)		
PCBS		
AROCLO-1242 (ng/g)		
95.2 U (11)		
AROCLO-1248 (ng/g)		
51 J (11)		
AROCLO-1254 (ng/g)		
34 J (11)		
AROCLO-1260 (ng/g)		
238.2 (11)		
PCB, TOTAL (ng/g)		
340.2		

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VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected Depth Source	RFW0002544	RFW0002544	RFW0002544	RFW0002545	RFW0002545
	18	19	20	1	2
	H3-TA05RS28-0-C001	H3-TA05RS29-0-C001	H3-TA10RS22-1-TP18	H3-TA05RS28-0-EM03	H3-TA08RS32-0-EM02
	RS28 (23B-VP-1)	RS29 (23B-VP-2)	RS22 (46-VP-5)	RS28 (23B-VP-1)	RS32 (46-VP-1)
	06/30/2000	07/06/2000	06/02/2000	04/07/2000	04/07/2000
	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0
	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE
ORGANIC					
PERCENT LIPIDS (GC) (%)	1.8 (11)	2 (11)	1.1 (11)	0.5 (11)	2.9 (11)
PCBS					
AROCOR-1242 (ng/g)	38.9 U (11)	79.4 U (11)	80 U (11)	99 U (11)	78.1 U (11)
AROCOR-1248 (ng/g)	38.9 U (11)	79.4 U (11)	80 U (11)	99 U (11)	78.1 U (11)
AROCOR-1254 (ng/g)	38.9 U (11)	79.4 U (11)	71.1 J (11)	99 U (11)	78.1 U (11)
AROCOR-1260 (ng/g)	304.3 (11)	1216.3 (11)	403.1 (11)	1170.1 (11)	78.1 U (11)
PCB, TOTAL (ng/g)	304.3	1216.3	474.2	1170.1	11.1

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot) Date Collected Depth Source	RFW0002545 3		RFW0002545 4		RFW0002545 5		RFW0002545 6	
	H3-TA04RS27-0-EM03 RS27 (18-VP-2) 04/08/2000 0.0-0.0 EPA COE		H9-TAWLRS41-0-EM04 RS41 (WML-1) 04/11/2000 0.0-0.0 EPA COE		H9-TAWLRS42-0-EM01 RS42 (WML-2) 04/12/2000 0.0-0.0 EPA COE		H9-TAWLRS43-0-EM04 RS43 (WML-3) 04/12/2000 0.0-0.0 EPA COE	
Analyte								
ORGANIC								
PERCENT LIPIDS (GC) (%)	1.7 (11)		0.3 (11)		0.2 (11)		0.4 (11)	
PCBS								
AROCOR-1242 (ng/g)	46.9 U (11)		48.5 U (11)		49 U (11)		45.9 U (11)	
AROCOR-1248 (ng/g)	46.9 U (11)		48.5 U (11)		49 U (11)		45.9 U (11)	
AROCOR-1254 (ng/g)	46.9 U (11)		48.5 U (11)		49 U (11)		1.1 J (11)	
AROCOR-1260 (ng/g)	2099.4 (11)		48.5 U (11)		3.8 J (11)		6.5 J (11)	
PCB, TOTAL (ng/g)	2099.4		6.6		3.8		7.6	

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
 VERNAL POOL STUDY 2000
 TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID		RFW0002545
C-of-C Item		8
Field Sample ID		H2-TA02RS20-0-TP08
Sample Location: Weston (Woodlot)		RS20 (8-VP-1)
Date Collected		04/20/2000
Depth		0.0-0.0
Source		EPA COE
Analyte		
ORGANIC		
PERCENT LIPIDS (GC) (%)		0.3 (11)
PCBS		
AROCOR-1242 (ng/g)		91.7 U (11)
AROCOR-1248 (ng/g)		91.7 U (11)
AROCOR-1254 (ng/g)		246.3 (11)
AROCOR-1260 (ng/g)		164.2 (11)
PCB, TOTAL (ng/g)		410.6

Field Sample ID Symbols:

- R=Reference Specimen
 F=Female
 EM=Egg Mass, Phase I
 MM=Metamorph, Phase I
 MC=Metamorph, Crossover Study, Phase I
 TP=Tadpole Larvae, Phase II
 C=Metamorph Composite, Phase III

Result Suffix Symbols:

- R=Rejected
 U=Undetected
 J=Estimated
 0=Unvalidated
 10=Validated
 11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002545 9		RFW0002545 10		RFW0002545 11		RFW0002545 12		RFW0002545 13	
	H3-TA05RS28-0-TP01 RS28 (23B-VP-1) 04/20/2000 0.0-0.0 EPA COE		H3-TA05RS29-0-TP01 RS29 (23B-VP-2) 04/20/2000 0.0-0.0 EPA COE		H3-TA08RS21-0-TP12 RS21 (38-VP-2) 04/21/2000 0.0-0.0 EPA COE		H3-TA10RS22-0-TP15 RS22 (46-VP-5) 04/21/2000 0.0-0.0 EPA COE		H3-TA08RS30-0-TP01 RS30 (38-VP-1) 04/21/2000 0.0-0.0 EPA COE	
Analyte										
ORGANIC										
PERCENT LIPIDS (GC) (%)	0.1 U (11)		0.5 (11)		0.7 (11)		0.6 (11)		0.9 (11)	
PCBS										
AROCOR-1242 (ng/g)	175.4 U (11)		188.7 U (11)		158.7 U (11)		113.6 U (11)		65.4 U (11)	
AROCOR-1248 (ng/g)	175.4 U (11)		188.7 U (11)		158.7 U (11)		113.6 U (11)		65.4 U (11)	
AROCOR-1254 (ng/g)	175.4 U (11)		188.7 U (11)		194.4 (11)		113.6 U (11)		65.4 U (11)	
AROCOR-1260 (ng/g)	3436 (11)		793.4 (11)		453.7 (11)		113.6 U (11)		680.6 (11)	
PCB, TOTAL (ng/g)	3436		793.4		648.1		301.6		680.6	

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID Sample Location: Weston (Woodlot)	RFW0002545		RFW0002548		RFW0002548		RFW0002548	
	14		15		1		2	
	H3-TA04RS27-0-TP01 RS27 (18-VP-2) 04/24/2000 0.0-0.0 EPA COE		H3-TA08RS32-0-TP01 RS32 (46-VP-1) 04/24/2000 0.0-0.0 EPA COE		H3-TA10RS22-0-C001 RS22 (46-VP-5) 07/06/2000 0.0-0.0 EPA COE		H3-TA04RS27-0-MM05 RS27 (18-VP-2) 07/19/2000 0.0-0.0 EPA COE	
Analyte	Depth		Date Collected		Source		Date Collected	
ORGANIC								
PERCENT LIPIDS (GC) (%)	0.6 (11)		0.9 (11)		1 (11)		2.2 (11)	
PCBS								
AROCOR-1242 (ng/g)	81.3 U (11)		204.1 U (11)		133.3 U (11)		108.7 U (11)	
AROCOR-1248 (ng/g)	81.3 U (11)		204.1 U (11)		133.3 U (11)		108.7 U (11)	
AROCOR-1254 (ng/g)	81.3 U (11)		204.1 U (11)		133.3 U (11)		173.5 (11)	
AROCOR-1260 (ng/g)	1671.4 (11)		274.6 (11)		591.9 (11)		694.1 (11)	
PCB, TOTAL (ng/g)	1671.4		274.6		591.9		867.6	

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID C-of-C Item Field Sample ID	RFW0002548	RFW0002548	RFW0002550	RFW0002550
	7	8	2	18
Sample Location: Weston (Woodlot)	H3-TA08RS22-0-MM10	H3-TA10RS22-1-C001	H9-TAWLRS41-0-TP01	H3-TA05RS28-0-MMD4
	RS22 (46-VP-5)	RS22 (46-VP-5)	RS41 (WML-1)	RS28 (23B-VP-1)
	Date Collected	06/12/2000	04/27/2000	06/05/2000
	Depth	0.0-0.0	0.0-0.0	0.0-0.0
Source	EPA COE	EPA COE	EPA COE	EPA COE
Analyte				
ORGANIC				
PERCENT LIPIDS (GC) (%)	0.9 (11)	1.1 (11)	1.1 (11)	2.4 (11)
PCBS				
AROCOLOR-1242 (ng/g)	76.9 U (11)	156.3 U (11)	107.5 U (11)	62.5 U (11)
AROCOLOR-1248 (ng/g)	76.9 U (11)	156.3 U (11)	107.5 U (11)	10.5 J (11)
AROCOLOR-1254 (ng/g)	11.2 J (11)	156.3 U (11)	107.5 U (11)	31.5 J (11)
AROCOLOR-1260 (ng/g)	63.4 J (11)	552.9 (11)	107.5 U (11)	62.9 (11)
PCB, TOTAL (ng/g)	74.5	552.9	73.1	104.9

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID		RFW0002550
C-of-C Item		19
Field Sample ID		H3-TA08RS32-0-C001
Sample Location: Weston (Woodlot)		RS32 (46-VP-1)
Date Collected		07/06/2000
Depth		0.0-0.0
Source		EPA COE
Analyte		
ORGANIC		
PERCENT LIPIDS (GC) (%)		
		1.5 (11)
PCBS		
AROC-LOR-1242 (ng/g)		41.2 U (11)
AROC-LOR-1248 (ng/g)		6.6 J (11)
AROC-LOR-1254 (ng/g)		6.6 J (11)
AROC-LOR-1260 (ng/g)		118.3 (11)
PCB, TOTAL (ng/g)		131.4

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

HOUSATONIC RIVER PROJECT
VERNAL POOL STUDY 2000
TISSUE SAMPLES, ORGANIC TEST RESULTS

C-of-C ID	RFW0002551	RFW0002551	RFW0002551	RFW0002551	RFW0002551
C-of-C Item	9	13	14	15	16
Field Sample ID	H9-TAWLRS43-0-TP01	H9-TAWLRS41-0-MC01	H3-TA08RS21-0-TP14	H3-TA05RS28-0-TP03	H3-TA05RS29-0-TP03
Sample Location: Weston (Woodlot)	RS43 (WML-3)	RS41 (WML-1)	RS21 (38-VP-2)	RS28 (23B-VP-1)	RS29 (23B-VP-2)
Date Collected	05/09/2000	06/01/2000	06/01/2000	06/01/2000	06/01/2000
Depth	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0	0.0-0.0
Source	EPA COE	EPA COE	EPA COE	EPA COE	EPA COE
Analyte					
ORGANIC					
PERCENT LIPIDS (GC) (%)	1 (11)	2.6 (11)	1.5 (11)	2 (11)	1.4 (11)
PCBS					
AROCOR-1242 (ng/g)	122 U (11)	43.5 U (11)	43.7 U (11)	31.7 U (11)	47.8 U (11)
AROCOR-1248 (ng/g)	122 U (11)	43.5 U (11)	43.7 U (11)	31.7 U (11)	47.8 U (11)
AROCOR-1254 (ng/g)	122 U (11)	330.4 (11)	682.9 (11)	37.5 (11)	9.2 J (11)
AROCOR-1260 (ng/g)	122 U (11)	6277.2 (11)	2731.7 (11)	149.8 (11)	82.5 (11)
PCB, TOTAL (ng/g)	23.5	6607.5	3414.6	187.3	91.7

Field Sample ID Symbols:

R=Reference Specimen
F=Female
EM=Egg Mass, Phase I
MM=Metamorph, Phase I
MC=Metamorph, Crossover Study, Phase I
TP=Tadpole Larvae, Phase II
C=Metamorph Composite, Phase III

Result Suffix Symbols:

R=Rejected
U=Undetected
J=Estimated
0=Unvalidated
10=Validated
11=Completeness Check Complete

Appendix G

Phase II Photo Atlas

**HOUSATONIC RIVER PROJECT
RANA sylvatica VERNAL POOL STUDY 2000
PHASE II PHOTO ATLAS
TABLE OF FIGURES**

Figures 1 and 2. Site 43 (WML-3) – Dorsal view of normal appearing larvae (Figure 1). Ventral view of normal appearing larvae included mouth, heart, and gut (Figure 2).

Figure 3. Site 41 (WML-1) – Slight abdominal edema. This abnormality was identified in a few specimens and was not characteristic of this site.

Figures 4 and 5. Site 20 (8-VP-1) – Abnormal development of the craniofacial region, mouth, and gut. Malformations identified were characteristic to this site.

Figure 6. Site 20 (8-VP-1) – Gut malformation, a characteristic abnormality in specimen examined from this site.

Figures 7, 8, and 9. Site 20 (8-VP-1) – Abnormal development of the face, mouth, and gut.

Figures 10 and 11. Site 21 (38-VP-2) – Ventral view of normal development (Figure 10). Dorsal view of abdominal edema (Figure 11). Axial tail flexure present in both specimen.

Figure 12. Example of axial flexure and notochord lesions.

Figure 13. Site 22 (46-VP-5) – Lesion and hemorrhage at proximal end of gut.

Figures 14, 15 and 16. Site 30 (38-VP-1) -- Malformations characteristic of this site included abdominal edema, face, mouth, gut, brain (microcephaly), and eye (microphthalmia).

Figure 17. Site 21 (38-VP-2) and Site 30 (38-VP-1) -- Examples of characteristic abnormalities included abdominal edema and gut malformations compared to normal development.

Figure 1. Site 43 (WML-3)

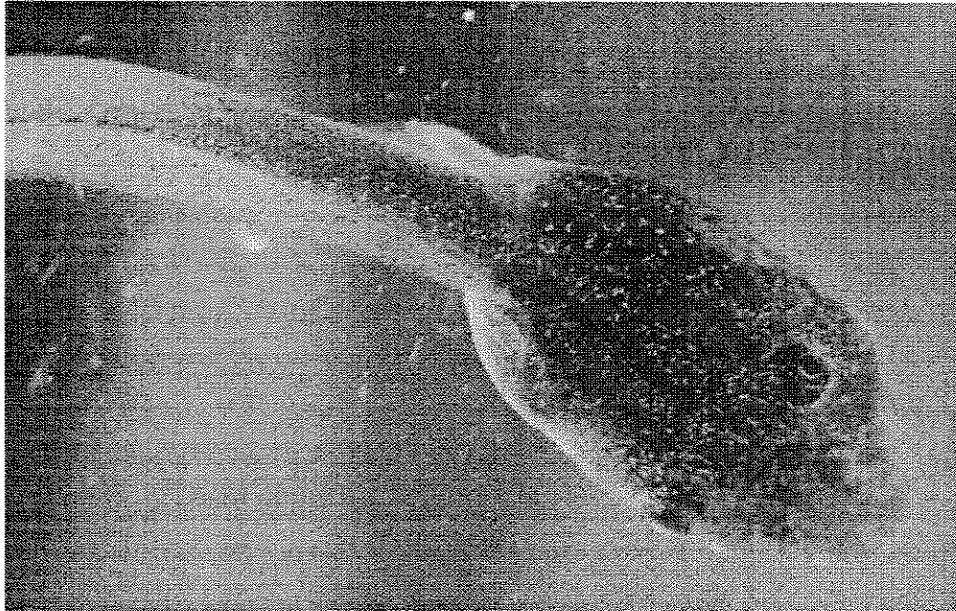


Figure 2. Site 43 (WML-3)



Figure 3. Site 41 (WML-1)

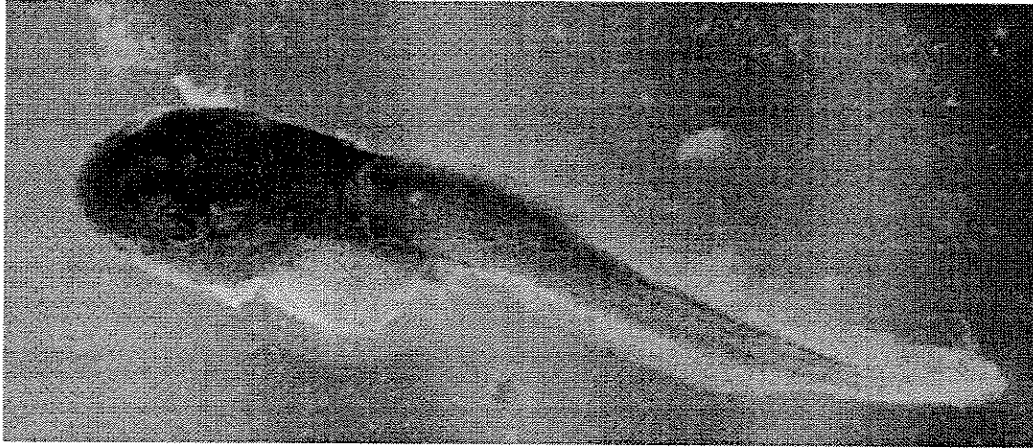


Figure 4. Site 20 (8-VP-1)

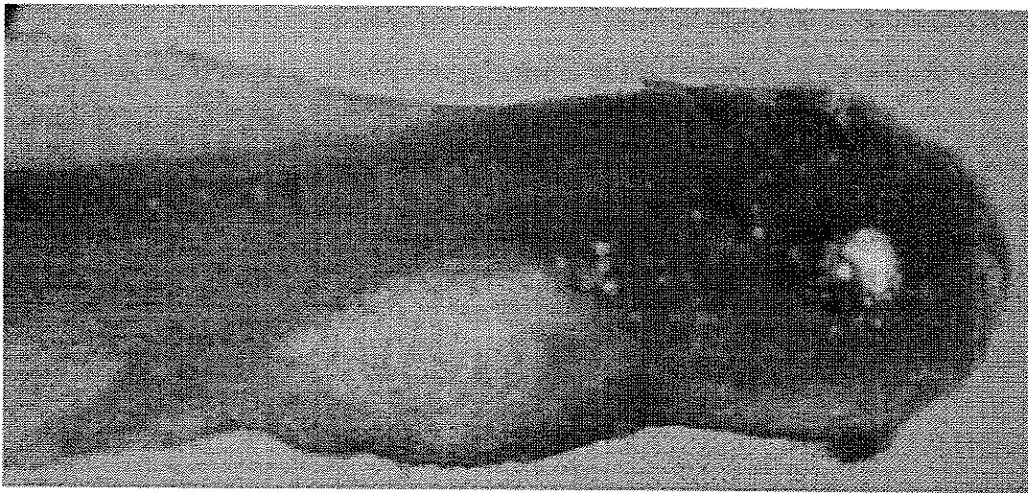


Figure 5. Site 20 (8-VP-1)

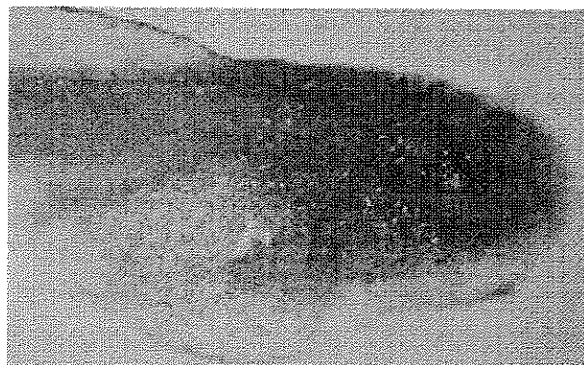


Figure 6. Site 20 (8-VP-1)

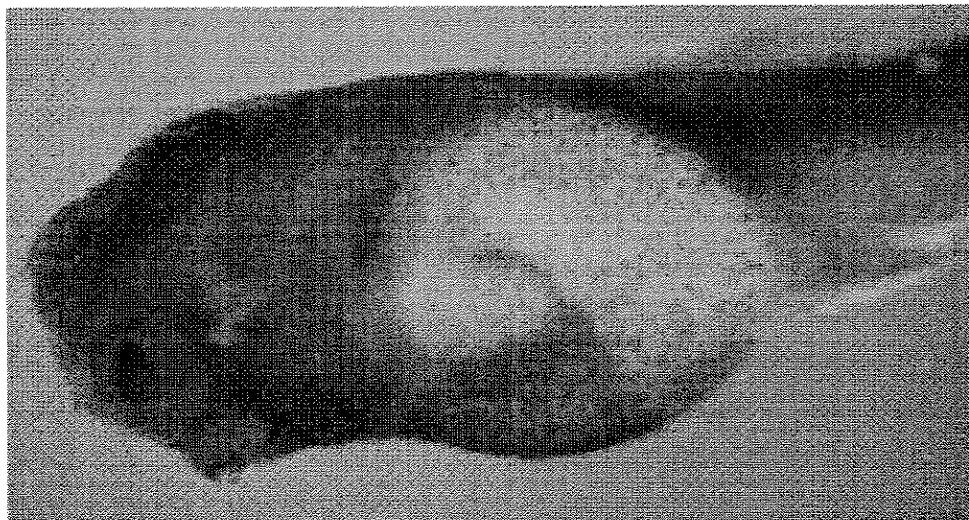


Figure 7. Site 20 (8-VP-1)

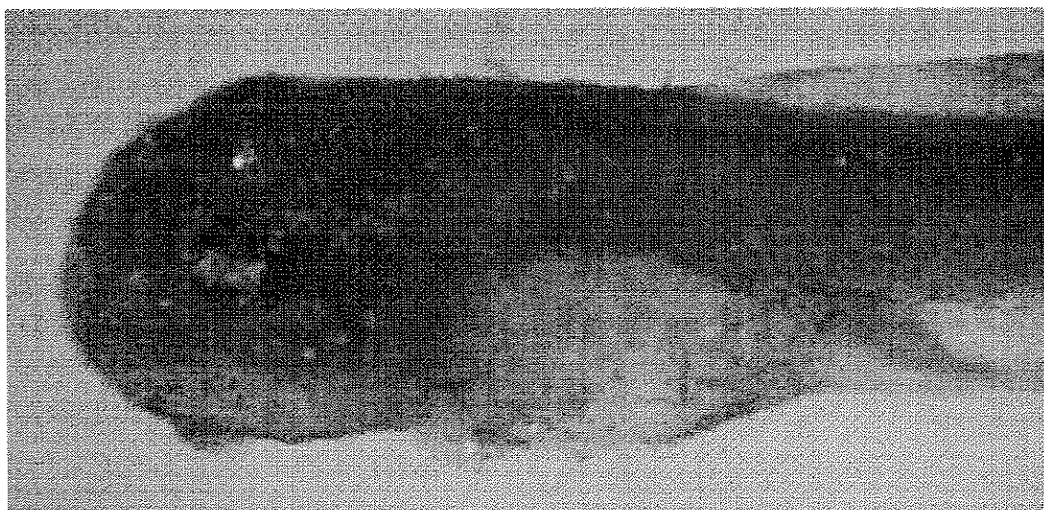


Figure 8. Site 20 (8-VP-1)

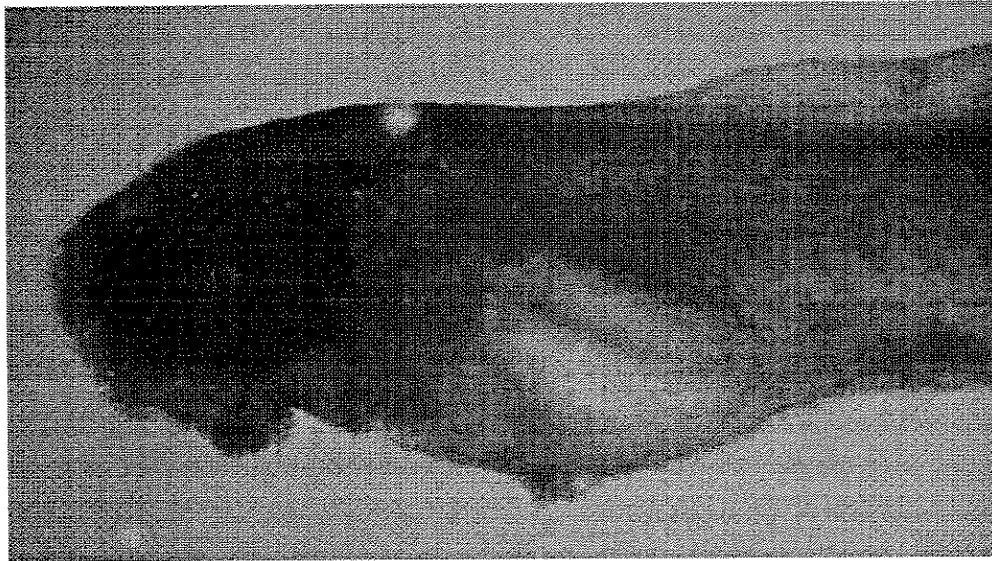


Figure 9. Site 20 (8-VP-1)

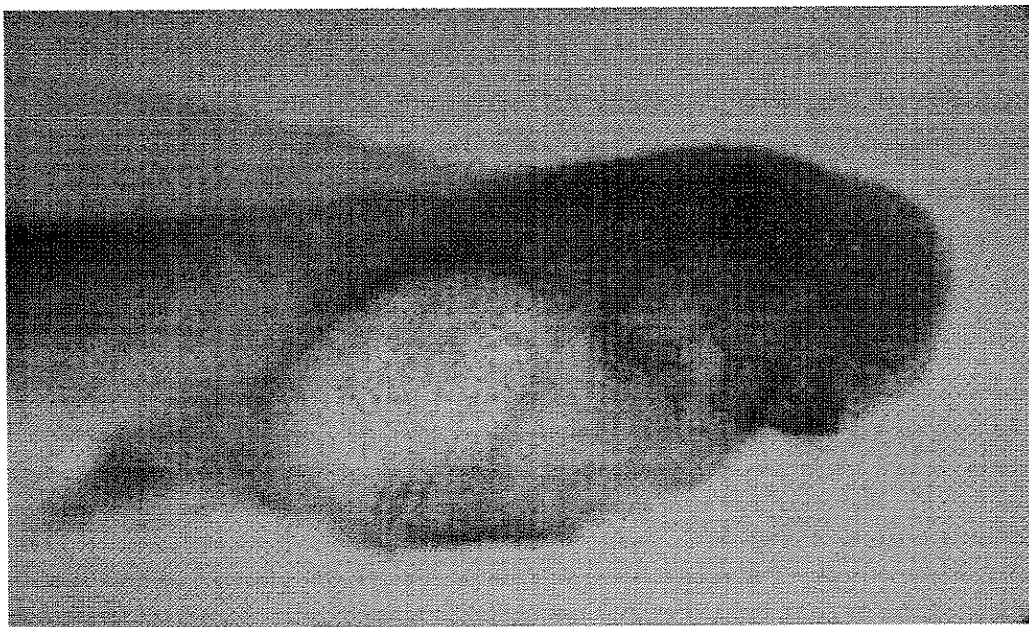


Figure 10. Site 21 (38-VP-2)

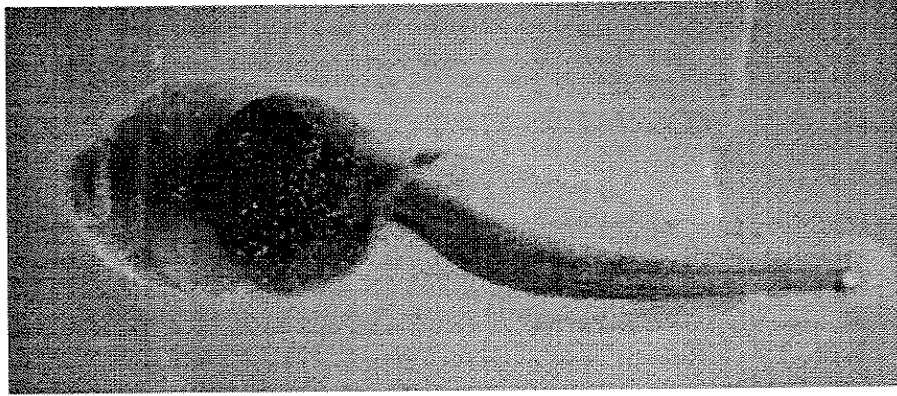


Figure 11. Site 21 (38-VP-2)

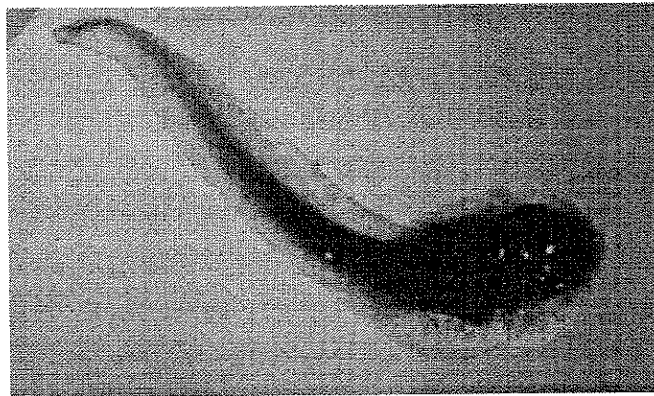


Figure 12. Example of Axial Flexure and Notochord Lesions

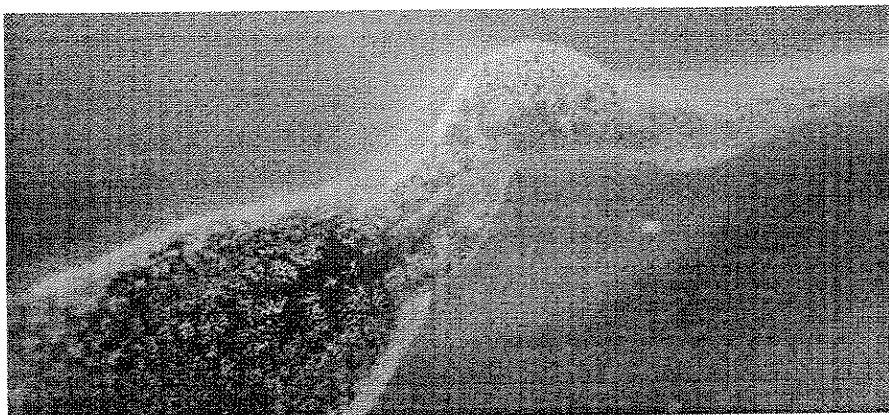


Figure 13. Site 21 (38-VP-2)

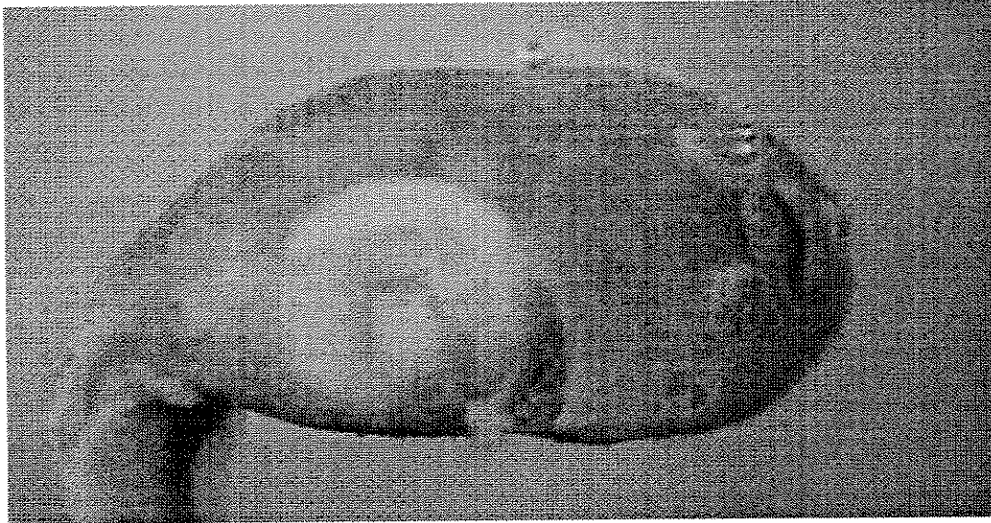


Figure 14. Site 30 (38-VP-1)

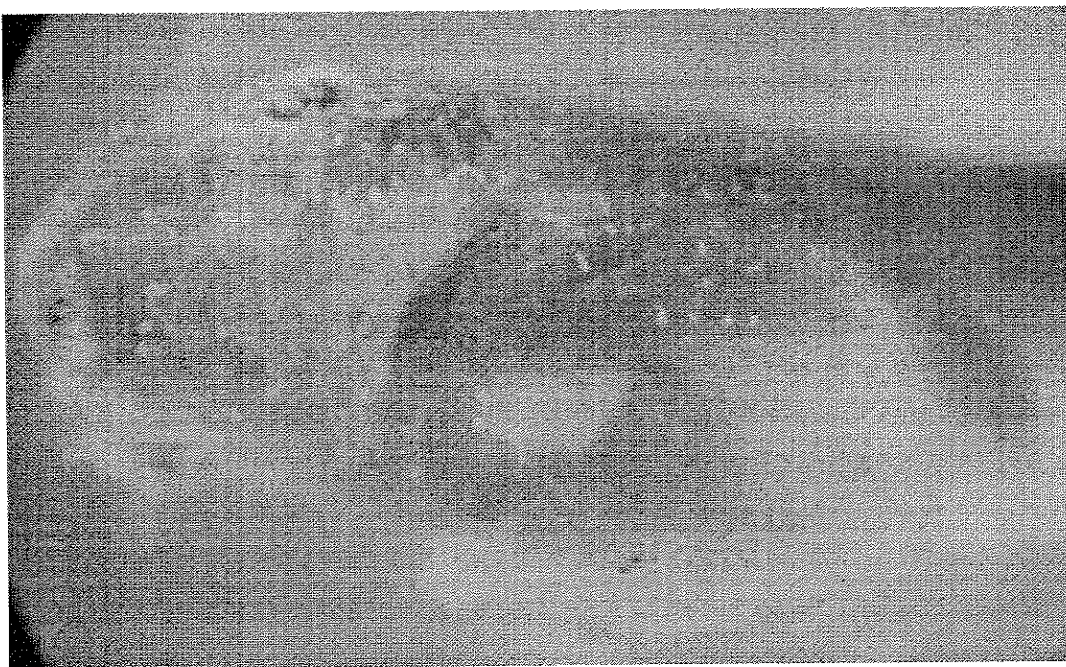


Figure 15. Site 30 (38-VP-1)



Figure 16. Site 30 (38-VP-1)

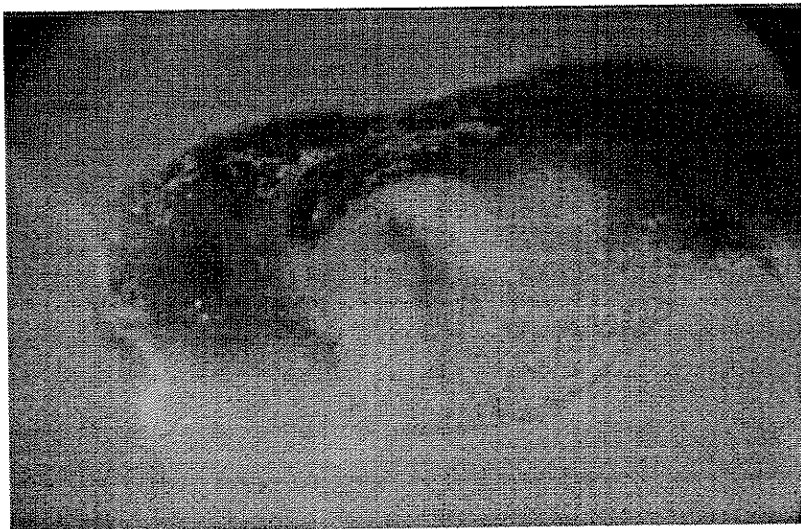
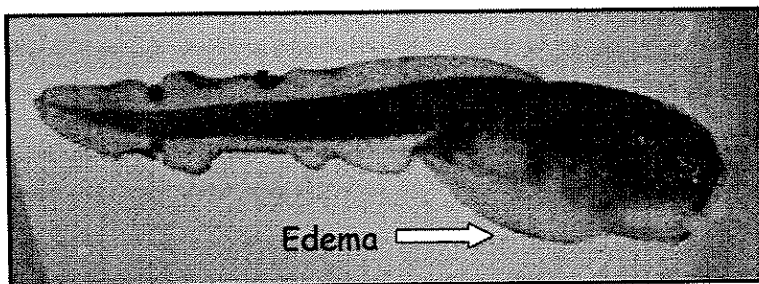
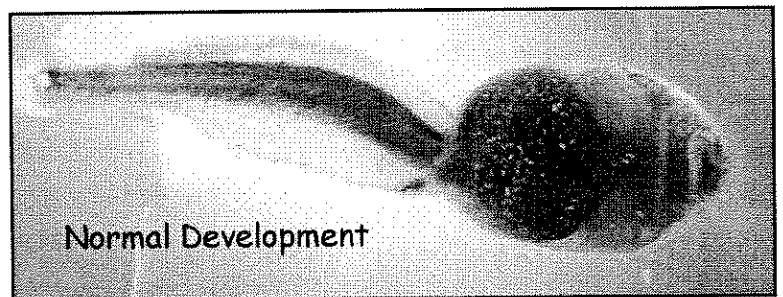
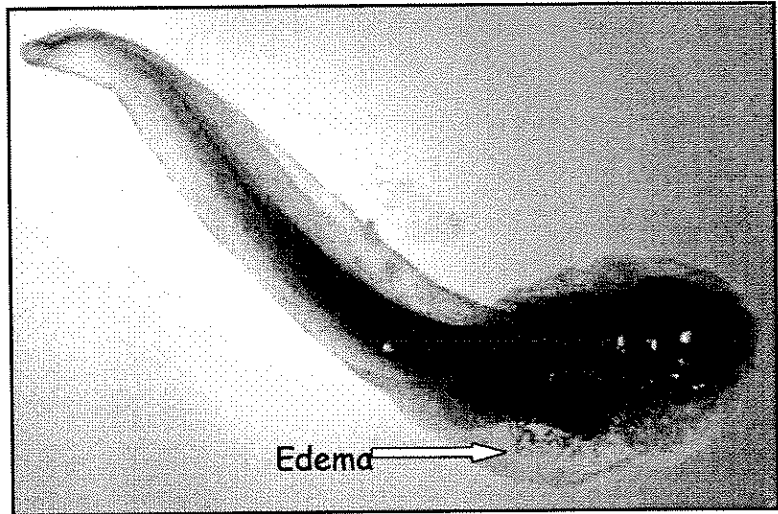
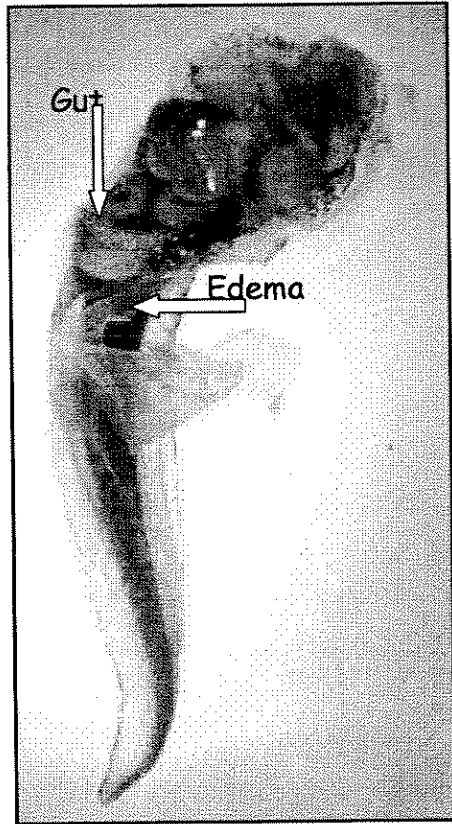


Figure 19. Site 21 (38-VP-2) and Site 30 (38-VP-1)



Appendix H

Study Quality Assurance/ Quality Control Plan

STUDY QUALITY ASSURANCE/QUALITY CONTROL PLAN

Data Quality Indicators and Assessment

As previously indicated, the primary objective of this study was to assess the impact of PCB exposure on reproduction, development and maturation in wood frogs collected from respective vernal pools. Overall, this study attempted to determine the effect of COPC exposure to early life stage wood frogs on reproductive capacity and developmental fitness by comparing a series of biological and toxicological indicators in specimens collected from relatively uncontaminated vernal pools (reference sites) and pools containing varying degrees of PCB contamination (target sites). In order to achieve this objective, the following data and specific quality assurance criteria was needed. Procedures, including specific laboratory protocols, were established and reviewed prior to the initiation of this project to ensure the accurate collection of the following data.

Data Quality Indicators

Data developed in the wood frog vernal pool study met acceptable standards of precision, accuracy, completeness, representativeness, comparability and sensitivity, as defined in Section 15 of the QAPP (Weston, 1999). Each of these data quality indicators, some of which were not readily quantifiable for data associated with this study, are discussed below.

Precision was defined as the level of agreement among repeated independent measurements of the same characteristic. Because of the biological heterogeneity inherent in wood frog communities, it was not possible to take repeated independent measurements of the biological parameters. Rather than control and measure precision, the study design included a total sample number and a number of replicates to obtain sufficient statistical resolution, as was defined in the subsequent section. Precision was also evaluated by the assessment of the degree to which sample collection procedures were able to ensure collection of a consistent number of samples. Endpoint or test metric precision within a given sample (specimens) were measured by ensuring

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an adequate number of replicates and are used to ensure adequate statistical measure of precision and resolution. For measurements that were not unique to the wood frog vernal pool study, such as water and sediment chemistry and tissue residues, precision was evaluated as defined in the QAPP (Weston, 1999).

Accuracy was defined as the agreement of a measurement with its true value. For the parameters unique to this study, accuracy was defined as meaning that the test metrics were correctly determined in each sample, correctly enumerated, and correctly recorded. Accuracy of each test metric was a function of each sample being processed, reviewed, and recorded and of consistent field sampling techniques. For parameters such as water and tissue residue and sediment contaminants, accuracy was as defined in the QAPP (Weston, 1999).

Completeness was defined as the percentage of the planned samples actually collected and processed. Completeness was evaluated for all components of the frog reproduction and development study. To ensure achieving the planned statistical resolution, it was important that completeness reasonably near 100% be achieved for all components of this study, with the exception of the tissue residue analyses. For the tissue analysis study component, the number of analyses were determined by the material available for collection, and establishment of an *a priori* completeness goal was not possible.

Representativeness referred to the degree to which the data accurately reflect the characteristics present at the sampling location at the time of sampling. This data quality indicator was addressed through implementation of proper sampling design, sample processing methods, and sample analysis may be evaluated via comparison with known and/or expected results.

Comparability was a measure of the confidence with which the wood frog reproduction, development, and maturation data could be compared to another similar data set. Comparability was also evaluated by examination of the sample location variability in key parameters as determined from the replicates collected at each location.

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Sensitivity, the ability of a measurement technique or instrument to operate at a level sufficient to measure the parameter of interest, was difficult to apply to the biological parameters associated with this study. Wood frog reproduction, development, and maturation represented sensitive indicators of frog health and fecundity. The ability of the test metrics designed in this study to determine potential changes in reproductive capacity or developmental fitness relative to corresponding tissue PCB residues or sediment PCB levels were the primary determinants of the sensitivity of this model system. Sensitivity of analytical analyses alone is described in the QAPP (Weston, 1999).

Endpoints and Data Quality Assurances

Number of Eggs per Egg Mass

Total egg counts were determined and recorded for each egg mass collected. Manual counting of the egg masses was required to obtain accurate counts. Egg mass counts were determined twice unless the values exceed 10% of one another, at which time one additional count was performed. In addition, the second count was verified by a separate analyst using the same criteria described above. Only minor movement of the egg mass as a whole was required to count the number of eggs, thus enabling the maintenance of egg mass integrity. No physical separation of the egg mass was required.

Egg Necrosis

The number of necrotic eggs was determined using the same approach and quality control measures as described for egg mass determination. The laborious nature of this process required significant attention to consistency to be accurate and required independent peer verification. Data verification using the approach described above for egg mass counting was used to verify the results. No manipulation of the egg mass was required to obtain necrosis data allowing integrity of the egg mass to be maintained.

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Fertilization

Fertilization was determined based on the formation of a cleavage plane in the egg, which represents an unambiguous marker of fertilization. Each egg was examined for cleavage without physical manipulation. The same quality control measures described for the previous metrics was used to ensure the quality of the data collected and reported.

Early Embryogenesis, Hatching Success, Mortality, and Morphological Development

To determine the effect of PCB and other COPC exposure on frog development, early embryonic development, hatching, and more advanced morphological development was monitored. Embryo-lethal effects were also recorded throughout development. As with the other metrics, close attention to accurate counting was imperative. Counts were verified by a separate analyst using the criteria described above.

Metamorphosis

The effect of PCB and other COPC exposure on maturation of the larval frogs was monitored since this life phase is often a sensitive indicator of potential stress. Detailed records of developmental stage, types and incidences of malformation, and the rate of limb development and tail resorption were obtained. Digital photographic documentation of metamorphic events was used as an important record of maturation. Peer review by a separate analyst was used to verify the data collected and authenticate the results.

Water and Sediment PCB and Other COPC Analyses

Analysis of water and sediment samples for the various COPCS were performed to compare to the tissue COPC levels and biological effects measured. Satisfactory results were ensured by submitting samples to the same laboratories that were responsible for analyzing samples from the

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other studies associated with the program. Quality control (QC) specifications for these data were identified in the project-wide QAPP (Weston, 1999).

Tissue Residue Analysis

Analysis of tissue samples for various COPCs were performed throughout the study to compare the sediment COPC concentrations to the biological effects measured. QC considerations to ensure achievement of the DQOs for this parameter followed the QAPP (Weston, 1999).

Egg mass characteristics, including fertilization, provided information as to the general capacity of the adult specimens to reproduce and impact on early development. Early embryogenesis and hatching represented the conversion of the static embryo to the free-swimming young larvae. Mortality, malformation, and growth inhibition were valuable indicators of abnormal changes in development. Each of these endpoints varied in sensitivity depending on the toxicants involved and the exposure conditions. Further, the measurement of rates of development were indicators of developmental delay which was also a valid developmental endpoint to allow determination of a relationship between observed effects and contaminants of potential concern (COPCs). In this case COPCs included PCBs, dioxin/furans, PAHs Appendix IX pesticides, and metals. The utility of measuring multiple chemical parameters and biological endpoints decreased the likelihood of overlooking a potential effect from a COPC exposure, particularly PCB or PCB-like contaminants (dioxins and furans). It was outside the scope of this project to specifically evaluate the toxicity of each metal. Additional consideration of these COPCs will potentially be considered in the ecological risk assessment (ERA).

Data Validation, Verification, and Usability

Procedures for data validation for the chemical and physical data are discussed in various sections of the project QAPP (Weston, 1999) and were used whenever applicable during this study. For the biological data, usability was largely determined by three factors: (1) the experience of the principal investigators in establishing that the field sampling was conducted

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using appropriate techniques and that accuracy and precision were not compromised by an inability to control the sampling procedures in the field; (2) an evaluation of the toxicological data as compared with previous studies; and (3) a direct comparison between the analytical chemistry and tissue residue data and similar data collected by other studies from similar areas of the river. The measures included in the study to ensure that the standards discussed above were achieved are described in the following section.

Sample Analysis

Laboratory Studies

Processing of the specimens for early developmental monitoring and evaluation of metamorphosis followed procedures established in the preceding sections. All samples were processed by experienced staff who have received specific training in this area and whose work was checked periodically by their supervisors and peers. Methods of QC for each metric evaluated were addressed in the DQOs. Each analysis was repeated until consistent results are obtained (i.e., two separate egg counts within a given specimens fell within 10% of one another). Verification by a separate analyst was also used to authenticate the results. Corrective action, including reprocessing of samples and retraining of staff, were instituted if these QC checks produce unsatisfactory results.

Physical/Chemical Samples

Samples for water and sediment chemistry and tissue residue analysis were processed following procedures and SOPs provided in the project-wide QAPP (Weston, 1999). These samples were submitted in catalogs and batches with other samples from the larger project, and data validation was performed on a catalog basis in accordance with procedures established and described in the QAPP (Weston, 1999).

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Data Analysis and Reporting

This final report, including all data, analyses, and interpretations, was prepared with specific reference to both the DQOs previously stated for the frog reproduction and development study and section 4.1 of the project-wide QAPP (Weston, 1999).

Quality Assurance Report

Data Quality Objectives

The primary objective of this study was to assess the impact of PCB exposure on development and maturation in wood frogs collected from respective vernal pools. Overall, this study provided a suitable attempt to determine the effect of PCB exposure to early life stage wood frogs on reproductive capacity and developmental fitness based on the data collected from this study. The following data was collected in accordance with the specific quality assurance criteria established for this project using the approach and methods established in the protocols established for this study including the number of eggs per egg mass, necrosis, fertilization, early embryogenesis, metamorphosis, water and sediment contaminant analysis, and tissue residue analysis. Data verification using the approach described in the preceding sections verified the results.

Data Quality Indicators

Data developed in the wood frog vernal pool study met acceptable standards of precision, accuracy, completeness, representativeness, comparability and sensitivity, as defined in Section 15 of the QAPP (Weston, 1999). One target site vernal pool was excluded from the study (site 31, 39-VP-1). No specimens were located and collected at site 31 (39-VP-1), which was heavily contaminated with PCBs, and other COPCs. Analytical chemistry data from site 39-VP-1 was, however, included in this report.